The Canadian Society of Cost Accountants & Industrial Engineers

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Issued by
The Canadian Society of Cost Accountants & Industrial Engineers,
Headquarters, 81 Victoria St., Toronto, Canada,
1931

CHARTER

The Society was incorporated by letters patent of the Dominion of Canada on May 3, 1920, as The Canadian Society of Cost Accountants. The applicants for incorporation, who constituted the first or provisional directors, were: James Hutchison, Montreal; R. J. Dilworth, Toronto; F. C. Gilbert, Winnipeg; G. W. Dickson, Halifax; G. E. Winter, Vancouver; G. C. Rooke, Regina; J. B. Sutherland, Calgary, and R. A. MacIntyre, St. John.

On June 10, 1930, the name was enlarged to The Canadian Society of Cost Accountants & Industrial Engineers. The Society is subject to the Companies Act of Canada, and its operations are governed by by-laws passed at general meetings of the Society.

OBJECTS

The objects of the Society as set forth in its Charter are as follows:—

(a) To promote actively the study and application of the Science of cost accounting.

(b) To develop and foster in commerce and industry a wider adoption of scientific cost accounting methods as an aid to management and executive control.

(c) To provide an organization to facilitate the increase in knowledge and proficiency of its members, in all matters relating to cost accounting and allied branches of commercial and industrial management.

BY-LAWS

ARTICLE 1. MEMBERSHIP

(a) Membership in the Society shall be open to anyone of age eighteen years or over, who is engaged in or interested in any branch of accounting, industrial engineering or plant management.

(b) Application for membership shall be made on the form provided by the Society for that purpose.

(c) An application must be approved by the directors of the nearest Chapter. The directors of the Society reserve the right to refuse admission, or to cancel any membership.

ARTICLE 2. FEES

(a) The fee for membership shall be Fifteen Dollars per year.

(b) The membership fee shall be payable in advance on the first day of March in each year. New members shall be required to pay only for the unexpired portion of the year.

(c) Any member who fails to make payment of his fee within three months from the date when it is payable, shall be liable to have his membership terminated.

ARTICLE 3. GOVERNMENT

(a) The affairs of the Society shall be managed by a Board of Directors, which shall consist of not less than fifteen and not more

than thirty members of the Society who shall be elected by the members at the annual meeting of the Society, and of the chairman and vice-chairman of each chapter.

(b) For the transaction of business at any meeting of the Board of Directors five shall form a quorum.

ARTICLE 4. OFFICERS

(a) The Board of Directors shall, at their first meeting after such election, elect from among themselves a President, two Vice-Presidents, an Honorary Secretary and an Honorary Treasurer, and may also from time to time appoint such other officers as the business of the Society shall render expedient and determine their duties and remuneration.

(b) The President of the Society may designate any member of the Board to act as Director in charge of some special phase of the activities of the Society, and any Director so appointed shall make a periodical report to the President of his work in that connection.

ARTICLE 5. MEETINGS

(a) Notice of the time and place for holding a general meeting of the Society shall be given at least fourteen days previously to the time in such notice specified for such meeting, by mail, addressed to the last known address of each member in good standing. At all general meetings of the Society every member in good standing shall be entitled to one vote and such vote may be given in person or by proxy if such proxy is himself a member in good standing. All questions proposed for the consideration of the members at such meetings shall be determined by the majority of votes, and the Chairman at such meetings shall have the casting vote in case of an equality of votes.

(b) A special general meeting of the Society may be called at any time by the President or by a majority of the Board of Directors or upon the written request of at least twenty members in good standing.

(c) For the transaction of business at any general meeting of the Society five members present shall constitute a quorum.

ARTICLE 6. ANNUAL MEETING

(a) The fiscal year of the Society shall end on the last day of February in each year, and the annual meeting of the Society shall be held within two months thereafter at such time and place as the Board shall determine.

(b) A report on the work of the Society, together with a financial statement for the previous year, duly audited, shall be presented at each annual meeting.

(c) At the annual meeting in each year two Auditors shall be elected by the members of the Society from among their number, and the persons so elected shall certify as to the correctness of the next following financial statement.

ARTICLE 7. CHAPTERS

(a) The Board of Directors may authorize the formation of Local Chapters in such centres as they may deem advisable, may designate the territory to be allotted to such chapters, and may make such

grants from the funds of the Society as they may deem expedient for the development and carrying on of Chapter work.

(b) Each Chapter shall be entitled to 20% of the fees collected by the Society from members within its territory, with a minimum of $60 (Sixty Dollars) per year, payable semi-annually, as and when directed by the Board of Directors.

(c) The fiscal year of all Chapters shall end on the last day of February in each year. The annual meeting of each Chapter shall be held within one month thereafter.

(d) Each Chapter shall be governed by a Board of Directors, elected at its annual meeting, of not less than seven and not more than fifteen members. These directors shall elect from their own number a Chairman, a Vice-Chairman and a Secretary-Treasurer or a Secretary and a Treasurer. At any meeting of the directors of the Chapter five shall constitute a quorum.

(e) Each Chapter shall have the right to make such other regulations as may be found necessary to meet local conditions, subject always to the approval of the Board of Directors of the Society.

(f) Each Chapter shall, within one month after the close of its financial year, forward to the Society a copy of its financial statement for the year.

ARTICLE 8. CORPORATE SEAL

The Society shall have a Corporate Seal. An impression of the Corporate Seal, certified by either the President or a Vice-President and by either the Honorary Secretary or the Honorary Treasurer, shall be binding upon the Society, but the Officers so certifying shall be personally accountable to the Directors and the Society for the due and proper exercise of such authority.

ARTICLE 9. SIGNING OFFICERS

All cheques or other negotiable instruments not requiring the use of the Corporate Seal shall be signed by the President, or a Vice-President, or the Honorary Treasurer and by the General Secretary or other officer designated by the Directors.

ARTICLE 10. EXAMINATIONS

The Board of Directors shall have power to hold examinations and to issue certificates of efficiency to successful candidates.

ARTICLE 11. AMENDMENT OF BY-LAWS

The Directors may from time to time repeal, amend or re-enact by-laws of the Society, but every such by-law and every repeal, amendment or re-enactment thereof, unless in the meantime confirmed at a general meeting of the Society, duly called for that purpose, shall only have force until the next annual meeting of the Society, and in default of confirmation thereat shall, at and from that time, cease to have force; provided, however, that no such repeal, amendment or re-enactment thereof shall have any force or effect whatever until approved by the Secretary of State in accordance with sub-section 4 of Section 7A of the Companies Act.

ARTICLE 12

All former by-laws of the Society are hereby repealed.

ORGANIZATION AND WORK

The Society has functioned continuously from the date of its incorporation, and its activity has steadily increased. In the early years meetings were only occasional, but with the development of Chapters in the leading cities regular programs were arranged. In 1924 the Society was affiliated with the National Association of Cost Accountants of the United States, and our members received the publications of the latter body. This connection was severed in 1926, but the two organizations continue in friendly co-operation. Since that date this Society has had its own monthly publication, "Cost and Management," which provides the members with a fund of educational material drawn from its meetings and from other sources, and also records the activities of the Society and its chapters. In 1927 headquarters were established in Toronto, from which the general business of the Society is conducted. In 1928 the Society inaugurated a plan for examinations and the issue of Certificates of Efficiency in Cost Accounting, and the first examination was held in Montreal on May 5, 1931.

Toronto Chapter was formally organized in 1923, Montreal Chapter in 1924, Hamilton Chapter in 1925, Winnipeg Chapter in 1928, Central Ontario Chapter in 1929, and Vancouver Chapter in 1930.

Annual conventions, attended by members of the Society as a whole, were held in September, 1926, at Toronto, and in September, 1927, in Montreal.

The Society's name was extended in June, 1930, to The Canadian Society of Cost Accountants & Industrial Engineers, to make the Society more definitely useful to industrial engineers and others engaged in controlling production. It was recognized that this field has much in common with cost accounting, and that the organization can serve both classes of members economically and effectively.

The chief activities of the Society are as follows:

Chapter Meetings. These are held regularly by each branch or Chapter, and are addressed by the best available speakers, or else take the form of discussion among Chapter members.

Cost and Management. This monthly publication of 32 pages, issued by the Society's central office, prints addresses at our various Chapter meetings, for the benefit of all our members. Other material, from outside sources, is also used. It also gives news of the Society's activities as a whole.

Employment. The Society's central office maintains a list of men with experience in costing or industrial engineering, who are available for new employment, and invites inquiries for such men. Each year a number of these men are placed in new positions.

Reference Library. The Society's central office has extensive reference literature on cost accounting and related subjects, including books, pamphlets and magazine articles. This literature is for the use of members. Any member having a special problem is invited to write about it, and some helpful information can usually be provided.

Examinations. A first examination, for the Society's certificate of Efficiency in Cost Accounting, was held in Montreal on May 5, 1931. Members or others interested in this phase of our work are invited to write for particulars.

Special Courses. The Society has co-operated with other organizations in providing elementary courses on cost accounting and related subjects, in Montreal and Toronto, and will be glad to do so at other points as occasions arise. Particulars of such courses may be obtained from the Society's office in Toronto or from officers of the different Chapters.

FINANCIAL STATEMENT

THE CANADIAN SOCIETY OF COST ACCOUNTANTS & INDUSTRIAL ENGINEERS

YEAR ENDED FEBRUARY 28, 1931

Balance Sheet
As at February 28, 1931

ASSETS

Cash in Bank		$ 147.73
Investments—Bonds at Cost		3,492.95
Interest Accrued		39.58
		$3,680.26

LIABILITIES

Membership Fees Paid in Advance		$ 990.00
Prize Money Held in Trust		
February 28, 1930	$ 105.00	
Paid During Year	25.00	
		80.00
Accrued Expense		
Amount Due President for Expenses Incurred During the Year		33.00
Surplus		
Balance March 1, 1930	$1,995.61	
Surplus for the Year Ended February 28, 1931, Brought Forward	581.65	
		2,577.26
		$3,680.26

Examined and found correct,

(Signed) C. H. PELLING, C.A.
FRED PAGE HIGGINS, F.C.A.

REVENUE

Membership Fees	$6,483.60
Interest	164.64
Publications Revenue	202.70
	$6,850.94

EXPENSE

General Expense, including Secretary's Salary and Expenses	$2,823.69
Chapter Allowances	1,262.68
Publications Expense	2,182.92
Surplus for the Year	581.65
	$6,850.94

PRINCIPAL OFFICERS OF THE SOCIETY SINCE ORGANIZATION

DOMINION

Year	President	Vice-President	Secretary	Treasurer
1920-21	Geo. Edwards, F.C.A.	Jas. Hutchison, C.A.	W. J. Valleau	W. J. Valleau
1921-22	Geo. Edwards, F.C.A.	R. J. Dilworth, F.C.A.	W. J. Valleau	W. J. Valleau
1922-23	Geo. Edwards, F.C.A.	R. J. Dilworth, F.C.A.	W. J. Valleau	W. J. Valleau
1923-24	Geo. Edwards, F.C.A.	R. J. Dilworth, F.C.A.	M. G. Dolan	John Craig
1924-25	R. L. Wright Wm. Carswell, C.A.	Wm. Carswell, C.A. R. J. Dilworth, F.C.A. John Craig	Henry Glover	G. H. Houston
1925-26	Wm. Carswell, C.A.	R. J. Dilworth, F.C.A. John Craig	S. B. Peckham	G. H. Houston
1926-27	John Craig	L. Belanger, L.A. James Turner, C.A.	R. S. Smith	G. H. Houston
1927-28	L. Belanger, C.P.A.	James Turner, C.A. R. R. Thompson, C.A.	L. P. Lortie, C.A. (Editor and Manager,	G. H. Houston W. A. McKague)
1928-29	James Turner, C.A.	R. R. Thompson, C.A. R. E. Love	G. C. Leroux, C.P.A. (General Sec'y,	G. H. Houston W. A. McKague)
1929-30	R. R. Thompson, C.A.	S. E. LeBrocq H. E. Guilfoyle, C.A.	G. C. Leroux, C.P.A. (General Sec'y,	G. H. Houston W. A. McKague)
1930-31	S. E. LeBrocq	H. E. Guilfoyle, F.C.A. W. J. Mundell, C.A.	G. C. Leroux, C.P.A. (General Sec'y,	G. H. Houston W. A. McKague)
1931-32	H. E. Guilfoyle, F.C.A.	W. J. Mundell, C.A. G. C. Leroux, C.P.A.	G. E. F. Smith, C.A. (General Sec'y,	G. H. Houston W. A. McKague)

MONTREAL CHAPTER (Organized 1924)

Year	Chairman	Vice-Chairman	Secretary	Treasurer
1924-25	Wm. Carswell, C.A.	L. A. Peto	D. M. Farish, C.A.	S. B. Peckham
1925-26	D. M. Farish, C.A.	A. Richards	E. W. King	C. E. Whitten
1926-27	L. Belanger, C.P.A.	R. R. Thompson, C.A.	F. Fernie	C. E. Whitten
1927-28	R. R. Thompson, C.A.	G. C. Leroux	D. R. Patton, C.A.	C. E. Whitten
1928-29	G. C. Leroux, C.P.A.	L. A. Peto	D. R. Patton, C.A.	C. E. Whitten
1929-30	L. A. Peto	C. E. Whitten	D. R. Patton, C.A.	L. Rhodes
1930-31	G. T. Bowden, M.C.I.	J. P. Masterson, C.G.A.	H. W. Blunt, C.A.	L. Rhodes
1931-32	R. W. Louthood	J. P. Masterson, C.G.A.	R. Schurman, C.A.	L. Rhodes

TORONTO CHAPTER (Organized 1923)

Year	Chairman	Vice-Chairman	Secretary	Treasurer
1923-24	R. L. Wright	H. T. Jamieson, C.A.	N. M. Bassin	G. H. Houston
1924-25	H. T. Jamieson, C.A.	N. M. Bassin	R. S. Smith	M. J. Smith
1925-26	H. T. Jamieson, C.A.	Jno. Craig	T. S. Jardine	R. S. Smith
1926-27	T. S. Jardine	James Turner	R. A. Burdett	C. H. Black
1927-28	James Turner, C.A.	H. E. Guilfoyle, C.A.	D. C. Patton	R. A. Burdett
1928-29	J. E. Carruthers	D. C. Patton	J. R. Pidduck	H. A. Shiach, C.A.
1929-30	D. C. Patton	R. Oaten.	H. J. McQuillan	H. A. Shiach, C.A.
1930-31	R. Oaten	K. A. Mapp, F.C.A.	E. W. Carpenter	H. A. Shiach, F.C.A.
1931-32	K. A. Mapp, F.C.A.	W. M. Lane	E. W. Carpenter	J. W. Spence

HAMILTON CHAPTER (Organized 1925)

Year	Chairman	Vice-Chairman	Secretary-Treasurer
1925-26	Geo. R. Kerr	W. G. Donaldson	S. G. Richardson
1926-27	W. G. Donaldson	A. J. Finck	G. E. F. Smith, C.A.
1927-28	R. E. Love	A. E. Keen, C.A.	M. I. Long, C.A.
1928-29	S. E. LeBrocq	G. E. F. Smith, C.A.	M. I. Long, C.A.
1929-30	M. I. Long, C.A.	A. J. Finck	A. J. Mouncey
1930-31	G. E. F. Smith, C.A.	A. J. Mouncey	A. E. Keen, C.A.
1931-32	A. J. Mouncey	H. M. Ross	R. Dawson

CENTRAL ONTARIO CHAPTER (Organized 1929)

Year	Chairman	Vice-Chairman	Secretary-Treasurer
1929-30	E. Tailby, L.A.	.....	C. J. Heimrich, L.A.
1930-31	E. Tailby, L.A.	Geo. Earnshaw	C. J. Heimrich, L.A.
1931-32	G. Earnshaw	C. J. Heimrich, L. A.	C. R. Dorschell

WINNIPEG CHAPTER (Organized 1928)

Year	Chairman	Vice-Chairman	Secretary-Treasurer
1928-29	F. C. Gilbert, C.A.	W. J. Mundell, C.A.	G. A. Phare
1929-30	W. J. Mundell, C.A.	W. J. Logan	R. H. Sims
1930-31	John Parton, C.A.	E. J. Burleigh	T. E. Saul, C.A.
1931-32	E. J. Burleigh	J. B. Sutherland, C.A.	T. E. Saul, C.A.

VANCOUVER CHAPTER (Organized 1930)

Year	Chairman	Vice-Chairman	Secretary-Treasurer
1929-30	H. D. Campbell, C.A.	.....	R. V. Kirkby
1931-32	H. D. Campbell, C.A.	J. S. Dull	R. V. Kirkby

OFFICERS OF THE SOCIETY, 1931-32

President—H. E. Guilfoyle, F.C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash, Toronto.
Vice-Presidents—W. J. Mundell, C.A., Ogilvie Flour Mills Co., Ltd., Winnipeg; G. C. Leroux, C.P.A., Dominion Income Tax Department, Montreal.
Honorary Treasurer—G. H. Houston, Rolph-Clark-Stone, Ltd., Toronto.
Honorary Secretary—G. E. F. Smith, C.A., Richardson, Smith, Ferrie & Co., Hamilton.
General Secretary—W. A. McKague, M.A., 81 Victoria St., Toronto.
Directors—J. S. Anderson, C.A., Western Canada Flour Mills Co., Ltd., Winnipeg; L. Belanger, C.P.A., Montreal; G. T. Bowden, Steel Co. of Canada, Ltd., Montreal; E. J. Burleigh, Manitoba Rolling Mills, Ltd., Winnipeg; H. D. Campbell, C.A., Vancouver; J. S. Dull, Gregory Tire & Rubber Co., Ltd., Port Coquitlam, B.C.; G. Earnshaw, Guelph Carpet & Worsted Spinning Mills Co., Ltd., Guelph; C. J. Heimrich, L.A., Cluett, Peabody & Co. of Canada, Ltd., Kitchener; T. S. Jardine, United Drug Co., Ltd., Toronto; W. M. Lane, Lever Bros., Ltd., Toronto; S. E. LeBrocq, Steel Co. of Canada, Ltd., Hamilton; R. W. Louthood, Beauharnois Corp., Ltd., Montreal; K. A. Mapp, F.C.A., Henry Barber, Mapp & Mapp, Toronto; J. P. Masterson, C.G.A., Canadian Industrial Alcohol Co., Ltd., Montreal; A. J. Mouncey, Norton Co. of Canada, Ltd., Hamilton; G. M. Mulholland, F.C.A., Thorne, Mulholland, Howson & McPherson, Toronto; R. Oaten, Gurney Foundry Co., Ltd., Toronto; L. A. Peto, Canadian Car & Foundry Co., Ltd., Montreal; J. J. Plommer, C.A., Shaw, Salter & Plommer, Vancouver; H. M. Ross, Mercury Mills, Ltd., Hamilton; J. B. Sutherland, C.A., George A. Touche & Co., Winnipeg; E. Tailby, L.A., Kitchener; R. R. Thompson, M.C., V.D., A.C.A., C.A., McGill University, Montreal; J. Turner, C.A., The T. Eaton Co., Ltd., Toronto.

MONTREAL CHAPTER

Chairman—R. W. Louthood, Beauharnois Power Corporation, Ltd.
Vice-Chairman—J. P. Masterson, C.G.A., Canadian Industrial Alcohol Co., Ltd.
Secretary—R. Schurman, C.A., R. Schurman & Co.
Treasurer—L. Rhodes, Consolidated Lithograph Mfg. Co., Ltd.
Directors—H. W. Blunt, C.A., A. K. Fisk, Skelton & Co.; A. Broomer, C.A., The Robt. Mitchell Co., Ltd.; L. N. Buzzell, C.A., Clarkson, McDonald, Currie & Co.; H. Douglas, Federated Press, Ltd.; P. E. Dufresne, Wilson & Fessenden; S. Farquharson, Farquharson & Associates; E. J. Loiselle, Canadian International Paper Co., Ltd.; D. R. Patton, C.A., Stanford's, Ltd.; J. P. Rolland, Rolland Paper Co., Ltd.; P. W. Wright, Shawinigan Engineering Co., Ltd.

TORONTO CHAPTER

Chairman—K. A. Mapp, F.C.A., Henry Barber, Mapp & Mapp.
Vice-Chairman—W. M. Lane, Lever Bros., Ltd.
Treasurer—J. W. Spence, Canadian Kodak Co., Ltd.
Secretary—E. W. Carpenter, DeForest Radio Corporation, Ltd.
Directors—F. E. Brooks, Canadian National Carbon Co., Ltd.; F. P. Higgins, F.C.A., Fred Page Higgins & Co.; B. W. Lang, Goodyear Tire & Rubber Co. of Canada, Ltd.; W. A. McCaffrey, Office Specialty Mfg. Co., Ltd.; R. Oaten, Gurney Foundry Co., Ltd.; C. H. Pelling, C.A., Clarkson, Gordon, Dilworth, Gulifoyle & Nash; G. A. Phare, Rapid Grip & Batten, Ltd.; R. Presgrave, York Knitting Mills, Ltd.; H. A. Shiach, F.C.A., Rutherford Williamson & Co.; E. E. Sparrow, Imperial Varnish & Color Co., Ltd.; R. F. Bruce Taylor, C.A., Edwards, Morgan & Co.

HAMILTON CHAPTER

Chairman—A. J. Mouncey, The Norton Co. of Canada, Ltd.
Vice-Chairman—H. M. Ross, Mercury Mills, Ltd.
Secretary-Treasurer—R. Dawson, The Hoover Co., Ltd.
Directors—A. J. Ballantyne, Firestone Tire & Rubber Co. of Canada, Ltd.; H. J. Farnan, National Steel Car Corp., Ltd.; A. C. Frazer, The Steel Co. of Canada, Ltd.; K. M. Horton, Cosmos Imperial Mills, Ltd.; A. E. Keen, C.A., Thorne, Mulholland, Howson & McPherson; M. I. Long, C.A., Clarke, Houston & Co.

CENTRAL ONTARIO CHAPTER

Chairman—G. Earnshaw, Guelph Carpet & Worsted Spinning Mills, Ltd., Guelph.
Vice-Chairman—C. J. Heimrich, L.A., Cluett, Peabody & Co. of Canada, Ltd., Kitchener.
Secretary-Treasurer—C. R. Dorschell, Babcock-Wilcox & Goldie-McCulloch, Ltd., Galt.
Directors—C. T. Black, Canadian General Rubber Co., Ltd., Galt; W. L. Jardine, Clare Bros. & Co., Ltd., Preston; E. J. Miller, Globe Furniture Co., Ltd., Waterloo; E. R. Scott, Babcock-Wilcox & Goldie-McCulloch, Ltd., Galt; E. Tailby, L.A., Kitchener.

WINNIPEG CHAPTER

Chairman—E. J. Burleigh, Manitoba Rolling Mills, Ltd.
Vice-Chairman—J. B. Sutherland, C.A., George A. Touche & Co.
Secretary-Treasurer—T. E. Saul, C.A., Dunwoody, Nicholl, Saul & Co.
Directors—D. C. Hodson, Dominion Bridge Co., Ltd.; H. Latter, Vulcan Iron Works, Ltd.; W. J. Marshall, Ogilvie Flour Mills Co., Ltd.; W. W. McVey, C.A., MacDonald, McVey & Co.; J. G. Mundie, C.A., Riddell, Stead, Graham & Hutchison; J. Parton, C.A., George A. Touche & Co.

VANCOUVER CHAPTER

Chairman—H. D. Campbell, C.A.
Vice-Chairman—J. S. Dull, Gregory Tire & Rubber Co., Ltd.
Secretary-Treasurer—R. V. Kirkby, Associated Dairies, Ltd.
Directors—G. R. Baird, Associated Dairies, Ltd.; H. V. Cox, Canadian Westinghouse Co., Ltd.; W. Griffiths, C.A.; J. Harvey, C.A., Peat, Marwick, Mitchell & Co.; G. S. McGlashan, British Columbia Sugar Refining Co., Ltd.; J. J. Plommer, C.A., Shaw, Salter & Plommer.

REPORT OF PRESIDENT AND DIRECTORS

Year Ended February 28, 1931

THE membership of the Society increased substantially during the past year. The following is a comparison:

	Feb. 28, 1930			Feb. 28, 1931		
	Senior	Junior	Total	Senior	Junior	Total
Montreal Chapter	98	12	110	120	13	133
Toronto Chapter	92	29	121	94	30	124
Hamilton Chapter	36	24	60	34	26	60
Central Ontario Chapter	18	5	23	19	7	26
Winnipeg Chapter	35	10	45	29	4	33
Vancouver Chapter	....	....	....	33	7	40
Total	279	80	359	329	87	416

(Note:—Commencing March 1, 1931, the distinction between Senior and Junior memberships is abolished.)

Vancouver Chapter is an important addition to our Society. A number of members formerly on the Winnipeg list were transferred to Vancouver Chapter.

Finances

Revenue was $6,850.94 and expenditure $6,269.29, leaving a surplus of $581.65 for the year which, added to the previous amount, now makes a total surplus of $2,577.26. The Society's funds are in Canadian Government bonds and in cash. We have no investment in office equipment, and our stock of reference literature, which is extended each year, is provided for out of current revenue.

Chapters

The six Chapters held a total of 55 meetings during the year. The addresses and discussions maintained the high standard set in the past.

The Chapters receive 20 per cent of the members' fees for their local expenses. The following is a summary of their financial results for the year:

	Balance Brought Forward	Receipts	Payments	Balance Carried Forward
Montreal	$443.58	$491.47	$467.60	$467.45
Toronto	201.96	524.00	498.92	227.04
Hamilton	58.11	142.25	138.51	61.85
Central Ontario	12.85	77.12	54.96	35.01
Winnipeg	73.46	152.14	54.05	171.55
Vancouver	.....	66.68	41.75	24.93
Totals	$789.96	$1,453.66	$1,255.79	$987.83

Publications

Our monthly "Cost and Management" was published regularly as usual. The activities of the past season have developed new material which assures our members of interesting issues through the summer months. A pamphlet was also published covering the by-laws and work of the Society, and the membership list.

Employment

Due to depressed business conditions, inquiries for men with cost experience were not numerous, but the Society was able to place a number of those available.

The reference library proves useful to more members each year, and the range of subjects is steadily growing.

Questionnaires were issued during the year on Handling of Personnel and on Cash Discounts, the results being published in "Cost and Management".

Two topics selected for common discussion at one or more meetings in each Chapter were Inventory Control and Practical Applications of Cost Data. Meetings on these topics were usually successful. Owing to wide differences in the dates, we were not able to reserve all material on these subjects for special numbers of our journal.

Visits to Chapters

The President of the Society was present at meetings of Montreal, Toronto, Hamilton and Central Ontario Chapters, while the General Secretary also visited each Chapter, including Winnipeg and Vancouver, assisting in the organization of the latter.

Through the generosity of an anonymous member, the Society obtained a membership trophy which was awarded to Montreal Chapter for the best progress in membership during the past year; arrangements have also been made to award prizes to the Chapter Secretary best reporting his Chapter's activities in "Cost and Management", and to the member not over thirty years of age who has contributed the best paper to "Cost and Management" during the season.

Examinations

Examination regulations were revised and printed in December "Cost and Management". Arrangements have been made to hold an examination in Montreal in May, 1931.

After careful consideration your directors amended the by-laws of the Society, abolishing the distinction between regular and junior memberships and setting the annual membership fee at $15, effective from March 1, 1931.

S. E. LeBROCQ, President W. A. McKAGUE, General Secretary.

COMMITTEES FOR CURRENT YEAR

The following are standing committees of the Society for the year 1931-32:

By-laws: The president and vice-presidents.

Chapter Programs: The president and chapter chairmen.

COST STUDIES PUBLISHED BY THE SOCIETY

(Copies available at 50 cents each)

Accounts Payable Department, Routine of. *W. M. Wilson*	Mar.,	1928
Accuracy in Business. *E. H. Morrow*	July,	1928
Administration, Costing as a Factor in. *E. T. Elbourne*	Oct.,	1926
Administration and Costing. *S. Laurence Gill*	Dec.,	1926
Administration and Selling Costs, Distribution of. *A. E. Keen*	Apr.,	1929
Appraisals and Plant Records. *H. C. Baker*	Feb.,	1930
Aviation Costs. *J. Hunter*	Apr.,	1929
Balance Sheet. *H. D. Clapperton*	Julv,	1927
Bank, Office Machinery in a. *Angus Macdonald*	Mar.,	1930
Bedaux Point System. *W. R. Hodgson*	Nov.,	1928
Better Management Practice. *W. J. Barrett*	May,	1927
Budget Control, Accounting and. *J. E. Goldring*	Jan.,	1928
Budget Control—How to Get Started. *G. E. F. Smith*	June,	1931
Budgetary Control. *H. Gilbert, C.A.*	Feb.,	1928
Budgetary Control. *Wm. Carswell, C.A.*	Dec.,	1929
Budgeting Control and its Relation to Business Forecasting. *F. R. Fletcher*	Mar.,	1931
Burden to Meet Varying Conditions, Adjusting. *R. E. Case*	Dec.,	1930
Cash Discounts—Credit Notes	Sept.,	1930
Commerce, Accounting and. *R. M. Sugars*	Aug.,	1927
Confectionery Mfg. Plant, Cost Finding in. *Thos Hood*	Aug.,	1929
Control of Labour and Material in Process. *W. M. Lane*	Sept.,	1930
Controller, Company. *F. A. Mansfield*	Apr.,	1927
Corporate Matters. *W. H. Coverdale*	Nov.,	1928
Corporations and Their Financing. *W. S. Ferguson, C.A.*	Aug.,	1930
Cost Accountant,—or Only Nine Months Behind. *G. E. F. Smith*	Sept.	1929
Cost Accounting. *R. R. Thompson, C.A.*	Sept.	1927
Cost Accounting. *Stanley M. Milne*	Feb.,	1931
Cost Accounting, General Scope of. *J. G. Mundie, C.A.*	Oct.,	1929
Cost Accounting Practice in Canada. *W. A. McKague*	Mar.,	1930
Cost Accounting to Business Management, Relation of. *R. B. W. Pirie, C.A.*	Dec.,	1930
Cost Criticisms. *A. Jones*	Dec.,	1926
Cost Studies on Proposed Changes in Processes. *C. E. Shumaker*	May,	1931
Cost System of The Norton Co. *A. S. Merrifield*	May,	1929
Costing in the Britsh Army. *A. Bailey*	Aug.,	1929
Costs and Cost Keeping. *W. H. Brown*	Oct.,	1928
Crop Harvesting, Costs in. *E. A. Hardy*	Jan.,	1929
Currency and Credit, Recent Developments in. *Arch. B. Clark*	Sept.,	1929
Department Store Management and Accounts, Some Phases of. *G. F. Klein*	Sept.,	1930
Depreciation. *M. J. Smith*	Nov.	1926
Depreciation. *H. E. McCrudden*	Oct.,	1929
Depreciation, Formulae for. *H. Tate*	Mar.,	1929
Detail Operations of Cost System. *R. Dawson*	Sept.,	1928
Difficulties of Cost Systems. *L. N. Buzzell*	Apr.,	1931
Distribution Costs. *W. B. Castenholz*	Oct.,	1926
Distribution, Cost of. *W. A. McCaffrey*	May,	1928
Dominion Income Tax. *C. S. Walters*	Aug.,	1929
Economics of Cost Accounting. *E. D. McCallum*	May,	1930
Education for Accounting. *H. Laureys*	Oct.,	1927
Efficiency of Labour. *H. Michell*	July,	1929
Electrical Production Control System. *L. Ederer*	Nov.,	1926
Engineer, The Uncommercial. *E. A. Allcut*	Sept.,	1930
Engineering Education. *J. A. Coote*	Mar.,	1928
Engineering Service and Industry. *F. Burnett*	Nov.,	1926
Export Business, Financing. *G. A. Peters, C.A.*	Aug.,	1930
Factory Management Wastes. *J. F. Whiteford*	Nov.,	1926
Factory Organization. *J. A. Coote*	May,	1928
Financial Statements. *S. E. LeBrocq*	June,	1927
Financial Statement. *John Cowan*	Aug.,	1927
Fire Insurance, Cost of. *W. A. Thompson*	Mar.,	1928
Forestry Department, Costing in. *G. C. Piche*	June,	1928
Gas Manufacture and Uses of Gas. *Hugh McNair*	Dec.,	1929
Group Bonus System of DeForest Radio Corporation, Ltd.	Oct.,	1930
Highway Expenditure, Accounting for. *J. L. Zoller*	July,	1928
Industrial Accounting from a Practical Standpoint. *S. E. LeBrocq*	Nov.,	1929
Industrial Engineer, The. *H. F. Wilson*	Oct.,	1930
Industrial Engineering, Advantages of. *P. E. Dufresne*	May,	1931
Instalment Plan. *H. Laureys*	Dec.,	1928
Inventory, Preparation and Taking of *C. H. Black*	Apr.,	1930
Inventory, Preparation and Taking of. *J. A. Parkhill*	Apr.,	1930
Inventory Control & Production Scheduling. *B. W. Lang*	Nov.,	1930
Inventory Control. *H. Latter*	Nov.,	1930
Justice, Unbalanced Scales of. *R. B. Graham*	Feb.,	1929
Labor Cost and Cost of Sales. *J. A. W. Rowe*	June,	1930
Labour Conference, International. *H. H. Champ*	Dec.,	1928
Labour Distribution. *L. A. Peto*	May,	1927
Labour's New Co-partnership. *David S. Kerr, C.A.*	Feb.,	1928
Life Insurance, Costing. *J. H. Lithgow*	Feb.,	1928

COST STUDIES—*Continued*

Lithographic Industry. *L. Rhodes* ..... May, 1928
Lithographic Plant, Handling Supplies in. *C. Wigle* ..... Apr., 1928
Materials, Accounting For. *R. Oaten* ..... June, 1930
Materials From Stores, Drawing. *F. E. Brooks* ..... June, 1930
Materials Handling, Finding Hidden Costs in. *J. I. McCormick* ..... Oct., 1930
Members' Problems Night, Montreal Chapter ..... Oct., 1930
Merchandising, Changing Conditions in. *C. L. Burton* ..... Aug., 1928
Money, Considerations on Cost of. *Rene Morin* ..... Mar., 1930
Motor Trucks, Cost Factor in Operating. *J. E. Swancar* ..... Dec., 1930
Municipal System of Montreal. *G. E. Saint Pierre, K.C.* ..... July, 1929
New Industry, Launching a. *R. R. Thompson* ..... Apr., 1930
Office Conditions as an Aid to Efficiency. *E. L. B. Hamlin* ..... Mar., 1930
Office Management Problems, Survey of. *W. M. Lane* ..... Feb., 1931
Operations of Manufacturing Co., *D. M. Farish, C.A.* ..... Mar., 1927
Operation of Modern Cost System. *L. Rhodes* ..... Jan.-Mar., 1927
Overheads and Their Distribution. *C. H. Black* ..... Feb., 1927
Packing Business, Cost in. *G. M. Pelton* ..... Nov., 1927
Paint Industry, Costs in the. *P. Probyn, C.A.* ..... May, 1930
Paper Company, Cost System of. *A. Lanthier* ..... Jan., 1930
Personnel in Industry, Welfare of *R. W. Doering* ..... Feb., 1931
Petroleum Industry, Costs in. *T. C. McCobb* ..... June, 1927
Photography, Costs in. *Charles Rice* ..... Aug., 1928
Plant Engineering. *A. Thormalen* ..... Aug., 1929
Plant Ledger, Installation and Control of a Modern. *J. P. Masterson* ..... Sept., 1929
Plant Ledger Sheets. *W. A. Robertson* ..... May, 1930
Plant Maintenance and Costs. *T. S. Jardine* ..... Jan., 1927
Practical Cost Accounting. *F. C. Laurence* ..... Dec., 1926
Preparation and Use of Cost Data. *A. S. Baillie* ..... May, 1931
Presentation of Costs to Executive. *G. A. Phare* ..... May, 1929
Presentation of Costs to the Executive. *W. F. Putt* ..... Aug., 1930
Price Cutting to Increase Sales. *K. E. Powlinson* ..... Nov., 1927
Principles of Cost Finding. *E. M. Jenkins* ..... Dec., 1928
Production. *T. S. Jardine* ..... Aug., 1927
Production Costs. *W. A. McKague* ..... Mar., 1931
Production and Control of Materials, Planning. *E. W. Carpenter* ..... Aug., 1930
Production on Piece-Work Basis, Recording *M. J. Roe* ..... June, 1930
Profit and Loss from Standard Costs. *D. C. Patton* ..... Feb., 1928
Public Utility Company. *M. T. Bancroft* ..... Nov., 1927
Pulp and Paper Industry. *J. H. Wilkie* ..... Mar., 1927
Purchasing. *R. M. Sedgewick* ..... Dec., 1926
Quebec Streams Commission. *O. Lefebvre* ..... Apr., 1927
Recording on Piece-Work Basis. *C. Warnes* ..... June, 1930
Rubber Industry, Cost Accounting in. *J. Graham Barrow* ..... June, 1929
Rubber Industry, Accounting Control in. *H. P. Nellis* ..... June, 1929
St. Lawrence Deep Waterway. *W. W. Goforth* ..... Oct., 1928
Sales Book Production Costs. *G. S. N. Gostling* ..... Apr., 1931
Sales Statistics. *G. H. Sheppard* ..... Apr., 1931
Salesmen's Compensation. *H. G. Crockett* ..... July, 1927
Scope of Industrial Engineering in Industry. *Harry F. Wilson* ..... June, 1931
Scrap—Causes and Effects. *G. A. Phare* ..... June, 1930
Selling Costs, Distribution of. *A. E. Keen* ..... Apr., 1929
Selling and Administrative Expense, Distribution of. *J. F. Lovell* ..... July, 1930
Standard Costs, Elements of. *J. E. Carruthers* ..... Apr., 1927
Standard Costs. *D. M. Farish, C.A.* ..... Oct., 1928
Standard Costs. *Eric A. Camman, C.P.A.* ..... Jan., 1931
Standard Costs. *J. A. Waterbury* ..... Mar., 1931
Statements, Subdivision of. *R. R. Thompson, C.A.* ..... Mar., 1929
Statistical Method, Scope of. *V. Gratton* ..... Aug., 1929
Steel Industry, Factory Overhead in. *F. I. Greenfield* ..... July, 1928
Stock Turnover. *G. Z. Lindley* ..... Jan. 1929
Stove Industry, Factory Overhead in. *R. Oaten* ..... Apr., 1928
Taxation, Incidence and Incidents of. *L. Belanger, C.P.A.* ..... Jan., 1929
Terms and Principles. *R. R. Thompson, C.A.* ..... Apr., 1927
Textile Plant, Standard Costs in. *H. M. Ross* ..... July, 1930
Textile Industry, Costs in. *F. G. Daniels* ..... Feb., 1929
Thirteen Period Calendar, Advantages of. *Meredith N. Stiles* ..... May, 1929
Tie-in of Factory Records with Costing System. *C. Oliver Wellington* ..... June, 1930
Time and Motion Study. *C. B. Prosser* ..... Mar., 1928
Time Studies, Scope and Value of. *H. F. Wilson* ..... Mar., 1929
Tribunals of Commerce. *L. A. Beaulieu* ..... June, 1928
Typothetae System of Cost Finding. *W. C. Parsons* ..... Oct., 1926
Uniform Cost Accounting. *W. H. Brown* ..... June, 1928
University Education for Commerce. *R. R. Thompson* ..... Nov., 1929
Value of Cost Accounting. *W. Bovey* ..... Sept. 1927
Wage Incentives. *A. E. Keen* ..... Jan., 1927
Wallpaper Manufacture, Costing in. *Claud Faux* ..... Aug., 1930
Waste Elimination in Cost Reduction. *C. E. Knoeppel* ..... Sept., 1926
Wheat Crop. *Sanford Evans* ..... Sept., 1926
Wheat, the Cost of Producing ..... June, 1931

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McElroy, F. C., Consolidated Lithograph Mfg. Co., Ltd., Montreal.
McIver, F. M., Canadian Car & Foundry Co., Ltd., Montreal.
McKee, J. E., International Business Machines Co., Ltd., Montreal.
McKeyes, C. B., Dominion Rubber Co., Ltd., Montreal.
McLean, F. S., The Miner Rubber Co., Ltd., Granby, Que.
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Nicol, G., Amalgamated Electric Corp., Ltd., Montreal.
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Ostrander, N., Canada Steamship Lines, Ltd., Montreal.
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Probyn, P., C.A., The Sherwin-Williams Co. of Canada, Ltd., Montreal.
Racine, C. R., Charles E. Frosst & Co., Montreal.
Renaud, V., 1846 St. Catherine Street West, Montreal.
Rhodes, L., Consolidated Lithograph Mfg. Co., Ltd., Montreal.
Riopel, A., Legare Automobile & Supply Co., Ltd., Montreal.

Robitaille, E., 266 St. James Street West, Montreal.
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Black, E. J., C.A., Welch, Campbell & Lawless, Toronto.
Blum, W., Rogers-Majestic Corp., Ltd., Toronto.
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Bradshaw, M. A., C.A., Stiff Bros. & Sime, Toronto.
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Brooks, F. E., Canadian National Carbon Co., Ltd., Toronto.
Brownell, D. C., Exide Batteries of Canada, Ltd., Toronto.
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Carruthers, J. E., Durant Motors of Canada, Ltd., Leaside, Ont.
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Clarke, J., C.A., Clarke, Houston & Co., Toronto.
Cossar, G. F., Willards Chocolates, Ltd., Toronto.
Daly, G. W., Canadian Locomotive Co., Ltd., Kingston, Ont.
Dilworth, R. J., F.C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash, Toronto.
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Dunlop, J. A., Gutta Percha & Rubber, Ltd., Toronto.
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Edwards, H. P., F.C.A., Edwards, Morgan & Co., Toronto.
Eells, J. E., Exide Batteries of Canada, Ltd., Toronto.
Elkington, P. W., Gutta Percha & Rubber, Ltd., Toronto.
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Ferguson, W. S., C.A., Seburn, Ferguson & Baker, Toronto.
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Guilfoyle, H. E., F.C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash, Toronto.
Gunn, E., F.C.A., Gunn, Roberts & Co., Toronto.
Hamlin, E. L. B., The T. Eaton Co., Ltd., Toronto.
Harcombe, F. J., Dunlop Tire & Rubber Goods Co., Ltd., Toronto.
Harris, J. S., The Canadian Chewing Gum Co., Ltd., Toronto.
Hetherington, H. M., Viceroy Mfg. Co., Ltd., Toronto.
Higgins, F. P., F.C.A., Fred Page Higgins & Co., Toronto.
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Johnston, C. W., Beardmore & Co., Toronto.
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Lane, W. M., Lever Bros., Ltd., Toronto.
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Langlois, R. H., C.A., Tip Top Tailors, Ltd., Toronto.
Leaver, G. F., C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash, Toronto.
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Lister, E. H., Page-Hersey Tubes, Ltd., Toronto.
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MacDougall, R. A., National Cash Register Co. of Canada, Ltd., Toronto.
MacPhee, E. D., York Knitting Mills, Ltd., Toronto.
Mapp, K. A., F.C.A., Henry Barber, Mapp & Mapp, Toronto.
Marrow, T. H., Durant Motors of Canada, Ltd., Leaside, Ont.
Matthews, F. K., The Canadian Bank of Commerce, Toronto.
Merson, H. S., C.A., Peat, Marwick, Mitchell & Co., Toronto.
Millar, D. L., Dominion Paper Box Co., Ltd., Toronto.
Muir, J., Income Tax Department, Toronto.
Mulholland, G. M., F.C.A., Thorne, Mulholland, Howson & McPerson, Toronto.
McCaffrey, W. A., Office Specialty Mfg. Co., Ltd., Newmarket, Ont.
McClelland, D. M., C.A., Price, Waterhouse & Co., Toronto.
McKee, J. M., International Business Machines, Ltd., Toronto.
McLachlan, W. R., DeForest Radio Corp., Ltd., Toronto.
McPherson, R. S., C.A., Thorne, Mulholland, Howson & McPherson, Toronto.
Nash, A. E., C.A., Clarkson, Gordon, Dilworth, Guilfoyle & Nash, Toronto.
Newth, R. W., Canada Printing Ink Co., Ltd., Toronto.
Oaten, R., The Gurney Foundry Co., Ltd., Toronto.
Ogden, A. L., Imperial Bank of Canada, Toronto.
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Standard Costs—Installation and Procedure

By ERIC A. CAMMAN, C.P.A.,
Peat, Marwick, Mitchell & Company, New York

(The address given by Mr. Camman at this Society's meeting in Hamilton, Ont., on October 29, 1930, was along the lines of the address printed below, which was delivered at the International Congress on Accounting, 1930, in New York, and which is reprinted here with the permission of the Congress. Tables I, II, III and IV are new, however.)

THE scope of this paper is that of the problems intrinsic to installation of standard costs and the procedure to be followed in operating them. The reasons why standard costs are desirable involve fundamental principles, while the uses to be made of the resulting data are a matter of management. This paper is intended to supply the intervening chapter between principles and uses in management.

It has not been entirely possible, however, to avoid touching on these two phases, because a statement of "how" calls for a brief word as to "why" and "for what use."

I. EXPLANATION

The standard cost of a product is that sum which is obtained by pricing a manufacturing specification of the product at predetermined basic rates for the materials, direct labor and burden or manufacturing expense entering into its manufacture.

To compile standard costs, basic rates must first be established; as to materials for each kind and size used; as to labor for each operation performed; and as to burden for each item of indirect costs allotted to processes or process groups in the budget. The material rates are unit prices. The labor rates are piece rates or their equivalent. The burden rates are the budgetted costs divided between machine hours, man hours or other measures of time occupied in the manufacturing processes.

A great deal of confusion of thought exists as to standard costs, partly because of the different meanings applied to the word "standard" in relation to accounting matters. These meanings have been (1) a specimen, (2) an ideal, and (3) a measure. It is used with the first of these meanings when applied to a standard cost system, which is a system designed as a model to be followed by the members of an industry or some similar group; standards used as specimens or models must be eliminated from present consideration as uniform cost systems are an entirely separate subject which is of too comprehensive a nature to discuss in this paper. It is used with the second of these meanings when standards are set in a costing system to represent the ideal accomplishment and as something with which to compare the actual performance. It is used with the third of these meanings when standards are set only as a convenient means of establishing relative values and as bases for use in the determination of actual costs and variances from expectations.

In their practical application standards coming under the second definition above given differ from those belonging to the third definition in this important feature: the former have to be changed from time to time to conform to the changes in material prices, in labor rates and in manufacturing expense, whereas the latter do not have to be changed for these reasons. This is because the "ideal" standard is made up of the required proportions of materials, labor and burden for each product priced at the expected market prices for materials and labor and at current expense levels for burden. The result represents the ideal as to quantity, quality and expected cost, and to continue to have it do so, it must be changed to meet market conditions as they occur. While standards used in the sense of a "measure" are also set to represent the ideal combination of quantities and qualities, the proportions of these are priced at unchanging basic costs. They are not intended to represent the ideal accomplishment as to costs, but only as to proportion. As the costs of the required quantities are set at fixed levels, in course of time these levels will not reflect current market conditions, and instead of making a direct comparison between actual and standard costs, the results under this plan are read as comparisons of the extent and direction of changes in the actual costs in successive periods from standards set at the same constant cost level.

As an illustration, if the standard costs were fixed in 1913, when the price of certain material stood at 100, and the price of that material in 1929 stands at 160, under the "ideal" standards plan, the material cost would be changed to the 1929 cost level; but using standards for measurement, it would not be so changed. Accordingly, the actual costs for material bought in 1929 would, in the first case, be equal to standard costs, or at a cost ratio of 100; whereas, in the second case, the actual material costs would be expressed at 160% of standard costs, viz., a cost ratio of 160.

This distinction between these two plans should be clearly understood, because methods and problems are contingent to some extent upon which of them is adopted.

In the use of standard costs different methods are followed, of which the three principal ones are:

a To charge work in process accounts at actual costs and to credit them at standard costs.

b To charge work in process accounts at standard costs only (diverting differences between actual and standard to variance accounts) and to credit them at standard.

c To charge work in process accounts at standard costs as well as at actual costs and to credit them at both standard and actual.

The methods (b) and (c) have a distinct advantage over method (a) in the method (a) of charging accounts for work in process at actual costs and crediting them at standard costs allows cost variations to be concealed until a count of the work in process on hand is made and, even then, it is difficult to analyze them into their contributory causes. Furthermore, much of the value of the information has been lost because of the lapse in time necessarily entailed in awaiting a count of the work in process. On the other hand, methods (b) and (c) disclose the differneces and deal with them more promptly.

The difference in principle between methods (b) and method (c) is that under method (b) the differences between actual costs and standard costs are diverted from work in process accounts to variance accounts, and the goods are charged at standard costs to finished stock and to cost of goods sold, while under method (c) the variances between actual costs and standard costs get into the cost of goods sold direct through the inventory accounts and not in the shape of variance accounts.

The difference between these methods is one of principle. Method (a) may be dismissed as inadequate, method (b) may be logically identified with the conception of standard costs as ideals of accomplishment, while method (c) applies when standard costs are to be regarded as units of measurement.

In addition to the differences in principle, there are two modes of procedure. Under method (b), inventories are carried at standard costs which have been calculated as being the current normal costs of production. Variances, therefore, are abnormal and are likely to represent excessive expenditure, the extent of which denotes the degree of ineffectiveness of operation. The amounts involved under conservative management will be written off at once.

Under method (c), the standard costs do not represent the current normal costs of production, but measure the expected proportions of the component materials, labor and burden. The variances in this case represent normal market changes as well as abnormal expenditure. The influence of the market changes, shown by separate ratios, is in order if it is consistent with the prevailing conditions, while the effectiveness of performance is gauged by ratios which are separately expressed for the variances due to deviations in proportion (i.e., quantity, quality). The amounts of variances are not written off, but the actual costs are allowed to stand.*

It is under method (b) that the standard costs are kept revised in accordance with changing market values, because they are to be used in appraising the actual results, and the distance between actual and standard is to be the measure of accomplishment. Whereas under method (c), the standard costs are not subject to frequent revision, but provision is necessary for the development and application of current cost ratios to standard.

In method (b) actual gross profits by lines of products cannot be expressed after the cost variances have been diverted to variance accounts, unless the variance accounts are kept in such detail as to practically duplicate the work in process accounts. In method (c), however, gross profits by lines can be shown, as the cost variances are not diverted but are retained in the work in process accounts, the entries being made at actual costs, with the standard costs in parallel columns. Thus, in due course, costs of goods sold are expressed at actual costs. Inventories are carried at actual costs. The standard costs are confined to the factory ledgers and are not used in the balance sheet, profit and loss or other financial statements.

*This is true except that actual costs include burden at normal rates only; unabsorbed burden is carried directly to profit and loss because a loss arising from a failure to absorb the full normal burden is not attributable to the cost of products currently made, but rather to the fact that not enough products were being made; a circumstance which is ordinarily outside the scope of manufacturing effectiveness in the executive sense.

While method (b) can be adapted to show gross profits by lines by keeping the cost variance accounts in such manner that the variances may be restored commensurately to the standard cost of goods sold, nothing is then gained by diverting the cost variances in the first place. But if this be not done, the routine of the accounting procedure is simpler and easier, because it is necessary only to ascertain the difference in total between recapitulations of materials, wages and burden at standard costs and the actual outlay therefor. The differences are carried to variance accounts broadly classified as material variances, labor variances, and burden variances.

This gain in lessening the routine work is obtained at the sacrifice of some useful information which is obscured by summarization of the variances, which in turn decreased the facility with which the variances can be explained. To facilitate explanation of the variances resort may be had to a finer sub-division of the variance accounts, and this course, carried to the fullest extent, would result in carrying as many variance accounts as there are work in process accounts for materials, labor and burden.

Under method (c) the data are available in such form as to allow of their being analyzed into their component parts by means of simple mathematical formulæ. It involves, however, some difficulty in presenting the figures, as it must always be kept clearly in mind that the difference between actual and standard costs is not to be regarded solely as a measure of effectiveness, but that it includes also the effect of normal cost changes which have not been applied to the standards. It is easier for the average man to understand statements wherein the standards, with which actual costs are to be compared, represent expected results. Therefore, it is always advisable to be careful when presenting figures to bring out clearly the level of the expected performance. For example, experience may have shown that the current normal trend of costs is upward, and that the best attainable result now would be 110% of the original standard costs. Consequently, a current cost ratio of 112 compares with the current par of 110. The distinction is that under method (b), when the standards represent the ideal, comparisons are made of each performance with its then current standard, whereas in method (c) the comparisons are made of present performance with preceding performances. In one way the extent of the normal trend is absorbed in the changed standards, in the other the extent of the normal trend is brought out.

At times, a departure is advisable from the principle, in method (c) of not changing the standards for cost changes. For instance, very wide fluctuations in raw material prices may make it highly desirable to revise the standard costs so as to avoid the difficulties of applying a high cost ratio to a low standard or vice versa; or to counteract the psychological effect of a big disparity between actual and standard costs; or again it may be necessary because of the lapse of time since the standard costs were originally established, which has brought about new permanent values. Any such changes, however, should only be made after careful thought as to their effect upon past and future comparisons.

Although the two plans discussed differ so importantly, they have the same general purpose which is to make suitable provision in the accounting procedure for the development of the figures in a manner which will be of practical help in the solution of the problems of management. It is in this direction that standard cost accounting is so much more adequate for modern industrial requirements than the job order and unit cost methods which it replaces. The job order and unit cost methods had as their central aim the ascertainment of accurate cost distributions in proof with the general accounts, and the preparation of financial statements. Consequently the ensuing figures were valuable chiefly as historic presentations of the affairs of the business, and were of little aid in solving the daily problems of control and policy.

The executive is coming to regard accounting as a helpful instrument and the accountant is an interested student of the problems of management. Modern industrial accounting systems are co-ordinated with the engineering procedure on which specifications are based; the planning by which the manufacture is regulated; the sales program by which the marketing is directed; and the fiscal policy by which finances are governed. Thus under a standard cost plan the accounting is completely integrated with these other inter-related phases of the business. It is apparent that this scope is greater than the ascertainment of costs merely; so much so that the term "cost accounting" is now obsolete; "control accounting" would be more fitting.

These objectives must be ever present in the mind during the process of installation and outline of the procedure, so that the proper perspective may be kept and the sense of direction not lost upon entering the forest of subordinate detail.

II. INSTALLATION

1. Establishing the Standards

The first step in the installation is to establish the standard costs. In this connection permanent files should be prepared in which to record the basic rates used and the manner in which they were determined.

Regarding the rates used for labor, schedules of operations should be made showing for each operation the speed of output, the equipment used and the wages paid. If piece rates are not in force, the hourly pay must be reduced to a piece rate by dividing the pay by the output per hour. When a premium wage payment plan is in force, under which the piece rates differ for various rates of production, a fair rate of attainment for an average worker must be used for the standard. Usually there is a known par of performance in such plans.

"Set-up" labor and burden raise a problem. "Set-up" means the preparatory adjustment of the machines and equipment in readiness for operation. It is most desirable, in fact sometimes imperative, on account of the relative magnitude of the setting-up operation, to treat set-up as a distinct operation, unless impractical because of the amount of clerical work involved. If this is not done there will have to be borne in mind the fact that the operation cost per unit will be

influenced by the size of the lot manufactured as well as by the effectiveness in setting-up and in running. For instance, if the standard set-up cost is $100 and the normal quantity for which the equipment will be prepared is 1,000, then the standard set-up cost is 10c each, but if only 500 are run, this cause alone doubles the unit set-up cost.

Burden rates are determined by means of a budget of the estimated indirect labor and supplies, maintenance, and fixed charges, based on operations at normal capacity. The budget totals are converted into unit costs per machine hour, man hour, etc., and applied to the estimated production.

What shall constitute normal capacity (i. e. machine hour, man hour, etc., capacity) is a difficult problem in each case and one to which the most careful thought must be given. There are two main features:

1. *a.* Shall the normal only allow as a deduction from a theoretical maximum, the company's experience as to time lost by ordinary operating interruptions, thus in effect bringing the normal level to the equivalent of a maximum *possible* of attainment; or (*b*) shall it allow also as a deduction, the company's experience for unused capacity because of insufficient sales demand? If this be done it brings the normal level to the equivalent of a maximum *probable* of attainment.

2. *a.* Shall the normal capacity be set for each department with particular regard to the capacities of related departments; or (*b*) shall the normal capacity be set for each department without giving consideration to other departments; or (*c*) shall the normal capacity be set for every department at the same arbitrary level?

If a high level is set for normal capacity in disregard of a sales demand which is below the capacity possibilities, an unabsorbed burden will result, which must be recovered eventually in the profit margin. On the other hand, the information shown as to the amount of the unabsorbed burden may stimulate efforts to acquire other lines of product and so to make fuller use of the available facilities. The subject is of major importance and is too large to render it practical to debate it within the scope of this paper, in fact no general rules can be laid down; the solution must be found in each case according to its particular circumstances. It is sufficient here to say that the accounting procedure must provide for the absorption of burden into the cost of products at the normal rates, the remainder or surplus being carried to the Profit and Loss Account separately.

Material rates are fixed on material price lists ranging over sizes, grades, etc., at the customary differentials.

From the basic rates for labor, burden and materials thus established, standard costs of products are compiled. The correct proportions of each element of cost are recorded, either in the gross, i.e., embracing shrinkages, or in the net, i.e., embracing only net good product. If it be desired that the standards shall represent ideal conditions, as in method (*b*) previously described, then the standard costs must be computed in the gross; under method (*c*) it is optional according to the nature of the product and the attendant factors.

When standard costs are established in the gross, so as to allow for shrinkages, then only an excess or reduced shrinkage, i.e., yield variance, will need to be adjusted in the accounts. In practice, the extent of this adjustment is determined by means of verification of the work in process or by tests. When standard costs are established in the net, which do not allow for shrinkages, credit entries must be made in the work in process accounts for the actual shrinkage losses, as credits to these accounts are to be made later at net standard costs. The net method is somewhat more work, because losses must be reported or computed, but the gross method requires considerable accuracy in estimating the yields. Given equal reliability of reports from the factory, the net method has a slight advantage in that under it full actual losses are disclosed, whereas, under the gross method, the losses are standard, subject to verification and adjustment later. Also the net method makes it easier to distinguish between those losses which are attributable to spoiled work and those which represent legitimate scrap.

Standard costs for special products should be compiled when the specifications for manufacture are received, in the identical manner as for stock products.

The next step in the installation is to prepare for a year ahead, monthly budgets of expected sales and of expected gross profits, by product classes, on the basis of the standard cost of goods to be sold and the normal profit margins to be realized. Warehouse, shipping, selling and administrative expenses, which for the purpose of simplicity are referred to herein as general expenses, are likewise budgeted as well as the residual net profits.

The preparation of budgets for sales, and for gross and net profits may seem at first to be an excursion into territory outside the realm of standard costs, but as mentioned earlier standard costs should be regarded as common denominators, the use of which is not fully made unless they are employed to interpret the variances between actual and expected profits, as well as variances in costs.

2. Maintaining the Standards

Provision must be made to maintain the completeness and accuracy of the standards after they have been established. Changes in conditions will arise which will entail modifications. These are not to be confused with the cost changes already commented on in Section I.

For example, changes will be made in the manufacture of products either by the use of other materials or by a new series of operations. Such changes will necessitate a corresponding re-assembly of the basic standard rates into new standard costs, just as if entirely new products had been made. Again changes in plant arrangement may affect the burden budget so as to make a revision advisable, because the proportions of the standard costs may be altered.

It will happen frequently that products are made differently than planned in the original specifications. This will usually be because machines are used which are not of the same type and/or have a different rate of output or of operating cost. The standard costs are not changed for such occurrences and the result of the departure

from the plans is shown as a variation between the actual cost of the alternative method as followed and the standard cost of that originally specified. Less frequently, the standards for both are used, to bring out separately the effectiveness of the manufacturing operations as run and the result of the variation from plans; the latter for the purpose of guidance in estimating.

In some industries which use raw materials subject to wide market changes, such as copper, rubber, cotton, etc., it is found desirable to make provision apart from the standard costs, to determine approximately the gain or loss which may arise in the form of a difference between the actual cost of the material and the market price on the basis for which the quotation was made to the customer. This is in effect an analysis of the profit margin.

Although the sales budget should be set up for a year in advance, it will be found helpful, as significant seasonal changes are frequently encountered which materially effect the original forecast, to regularly revise these budgets, keeping the record of the original and the latest revision. Such revised budgets may be made quarterly for the remainder of the year or monthly for the following three months. Revisions of this kind are readily made once the routine therefor is worked out; they have no effect upon the standard cost files.

The foregoing are the more prominent features of interest connected with the establishment and maintenance of the standard costs; the procedure and typical examples of the data to be furnished can now be considered.

III. PROCEDURE

The following description of the procedure is that which applies to method (*c*) under which standards are used as units of measurement to display the variations from expected results.

As previously stated the cost accounting plan consists of debiting work-in-process accounts both at actual and standard costs for labor, burden and materials entering manufacture, and of crediting work-in-process accounts with both the standard costs of production and the appropriate actual costs. The actual costs so credited pass to finished stock or cost of goods sold accounts.

The accounts are classified and grouped, the best grouping being by product classes. Under this arrangement a division is composed of similar products, the variations on which are likely to be similar in proportion and attributable to the same causes. Another arrangement is a grouping by departments and sub-departments; usually this plan requires more care and necessitates the devising of ingenious means to prevent the errors of excessive averaging which may result from too broad a combination.

It must be remembered that the variances which occur and are reflected in the entries on the debit side of the accounts are averaged and spread over the cost of deliveries of products as reflected by the entries on the credit side of the accounts. Under a proper classification this method will give a reasonably correct result.

After the accounting plan which is most suitable to the particular case has been formulated, attention must be directed to numerous matters of codification and identification, of organization to insure prompt and reliable incoming reports, of scheduling the routine of clerical work so that times of peak and slack load may be smoothed out, and of insrtucting the personnel in the fundamentals of the procedure. Nothing is to be gained here by dilating on these, as they are general problems not peculiar to standard cost accounting. It will be of more benefit to consider some of the typical data which will be forthcoming through this method, their significance and their uses.

Labor Cost Variance

The actual payroll is the source of information as to the amounts earned by direct workers during a period. The corresponding standard direct labor is derived by pricing and extending reports of production. Assume:

	Actual Payroll Direct Labor	Standard Direct Labor Cost of Production	Labor Cost Ratio
FIG. 1	$10,584.00	$7,560.00	140

The cost ratio 140 signifies that actual costs are 40% above standard or expressed in another way that only 100/140 or 71% of the expected results were realized for the wages paid.

It does not follow, however, that labor was only 71% effective. Under existing conditions labor costs at par of efficiency may be 126 of standard, in which case effectiveness is 90; or with a labor cost par ratio of 150, effectiveness is 107.

Man Effectiveness. The labor cost ratio is a compound character expressing the effect of two factors always influential. They are (1) the variation in output per man hour and (2) the variation in wage rates paid. To ascertain (1), one way is to compute the equivalent of standard man hours represented by the production of the period and ascertain its ratio of the total actual man hours paid for. A shorter way is available; assume:

	Standard Direct Labor Cost Budget at Capacity	Standard Direct Labor Cost of Production	Ratio, Labor Output to Capacity
FIG. 2	$12,000.00	$,560.00	63

	Budget, Man Hours, at Capacity	Actual Man Hours	Ratio, Man Hours Run to Capacity
FIG. 3	15,000 hours	12,600 hours	84

The budget data are already available, and the actual man hours are derived through the usual payroll channels. As a ratio of use to capacity (in man hours) of 84 is found to exist simultaneously with a ratio of output to capacity (in standard dollars) of 63 the ratio of actual to standard man hours for what was produced is 133. It took 84% in time to produce 63% in quantity (not cost), both against the common base of the budget. Man effectiveness is therefore $75\frac{(1.00)}{(1.33)}$

Wage Level. It has thus been ascertained that one of the influences contributory to the labor cost ratio of 140 is a man (hour) ratio of 133. The other is then simply found therefrom. Wage rates paid stand at $105 \frac{(140)}{(133)}$. This is to say, direct workers were paid at an average of 5% above the hourly rates of pay on which the standard costs were based. In the case of straight piece work, the wages should be kept separate, because if the piece rates are not changed, the cost ratio will be 100; the wage basis is constant, though the average hourly earnings may vary.

The pertinent facts as to labor have now been resolved: viz., 133% in hours at 105% in wages cause the labor cost ratio to be 140.

Machine Effectiveness. In a manner similar to that for discovering labor effectiveness it is possible to compute machine effectiveness. Presuming burden to be applied on the machine hour basis, use:

	Standard Burden Budget at Capacity	Standard Burden Cost of Production	Ratio, Burden, Output to Capacity
FIG. 4	$18,000.00	$13,440.00	74.7

	Budget, Machine Hours at Capacity	Actual Machine Hours	Ratio, Machine Hours Run to Capacity
FIG. 5	10,000 hours	7,700 hours	77

The budget data are available and the actual machine hours are easily obtainable. Applying the same reasoning as before it is found that actual machine hours stand at 103.1% of standard for the production, because a ratio of use to capacity (in machine hours) of 77 is found to exist simultaneously with a ratio of output to capacity (in standard dollars) of 74.7. Hence, it took 77% in time to produce 74.7% in quantity, both in relation to the budget. Machine effectiveness is 97 $\frac{(1.00)}{(103.1)}$

Burden Cost Variance

Departmental burden accounts are the source of data as to the actual charges and accruals for indirect costs. The corresponding standard burden is figured by pricing and extending reports of production. To wit:

	Actual Burden Charges and Accruals	Standard Burden Cost of Production	Burden Cost Ratio
FIG. 6	$11,970.00	$13,440.00	89.1

The burden cost ratio of 89.1 signifies that the total charges when applied to production are 89.1% of the budgetted allotments in the standard costs, but it is inequitable to apply the total burden to a reduced production. We may readily analyze this result into the two influences always at work, namely, (1) the variation in rate of expenditure and (2) the variation in degree of capacity utilized.

Burden Level. The variation in rate of expenditure is computed on the basis of the data above displayed. The burden cost ratio is

89.1 at a time when machine running time is 103.1; therefore, the burden level (the ratio of expenditure to operation) is 86.4 $\frac{(89.1)}{(103.1)}$

Idle Capacity. The variation in degree of capacity utilized is a factor of importance to be developed, owing to the possible effect the trend may have on policies. From the foregoing assumed figures it is apparent that 23% of capacity has remained idle, inasmuch as 77% of machine hours were meployed (Fig. 5).

Crew Effectiveness. It is desirable to assemble certain ratios which have been developed by the procedure, in pairs for comparison of activities which should synchronize or move in proportion. A condition which often exists is that labor is applied in crews or gangs running large machines co-operatively, as printing presses, paper-making machines, etc. Or conversely, one operator is engaged in running a number of machines, as looms, automatic screw machines, etc. In such instances, a comparison of the man effectiveness ratio and the machine effectiveness ratio will show whether the right proportions have been maintained. For example, the assumed man effectiveness ratio 75 exists contemporaneously with the machine effectiveness ratio 97. Clearly too much man-power was exerted, for were this not so, the ratios would have been equal.

Compensation Effectiveness. Another valuable aid to control lies in a comparison between the man effectiveness ratio and the wage level ratio. In the example given it is plainly out of line to develop a wage level of 105 when man effectiveness is only 75. An unsound basis of wage payment is to be inferred, notwithstanding the method of payment.

Material Cost Variance

As in the case of labor and of burden, the material cost ratio obtained through this procedure is the result of two influences, namely (1) the variation arising from purchase price changes and (2) the variation in usage. The actual cost of materials consumed is obtained in the customary way, and the standard cost of the standard quantities specified is computed by extending reports of production. Assume:

	Material Consumed at Actual Cost	Standard Cost of Materials Required for Production	Material Cost Ratio
FIG. 7	$7,840.00	$7,000.00	112

Material costs, therefore, subjected to the two causes mentioned, stand at the level of 112% of standard. If now the ratio relative to either of the component causes can be ascertained the other is its complement in the total.

Material Price Variance

The ratio which can be obtained more easily is the price variation, thus:

	Materials Consumed at Actual Cost	Standard Cost of Materials Consumed	Material Price Ratio
FIG. 8	$7,840.00	$8,000.00	98

If provision is not made for figures to be available as to the standard cost of materials actually consumed, in addition to those for the quantities specified, an alternative course is to obtain the material price ratio from the figures for withdrawals from raw material inventory

accounts. To do this, these accounts must be charged when purchases are made at standard as well as actual cost which will show the price trend. The choice as to method depends upon the circumstances.

Material Usage Variance

Now that the material price ratio is known, the usage ratio can be determined. In this case it is $114.4\frac{(1.12)}{(.98)}$. The story therefore as to materials is that 114.4% of the quantity specified was used at 98% of the cost. The usage variance covers both waste of raw material and loss because of spoiled or defective product. Sometimes it is possible to develop separate ratios, before and after defective product is taken into account. This is done when spoiled and defective work as distinct from legitimate scrap can be easily identified. In this way a very useful record can be kept of controlable waste.

Before leaving the field of manufacturing operation it should be emphasized that no single variation from expectations can be intelligently weighed by itself; each must be considered in relation to others, and all are variables. It is on this account that the ratio method possesses such great value as a means of expressing proportions and trends, supplementary and complementary influences.

Gross Profit Variances

The next step in the procedure, is relative to the application of the same ideas to the operations subsequent to manufacture.

A variance between the amount anticipated to be realized from sales and the amount actually realized is attributable to two causes, (1) the variation in volume sold and (2) the variation in price. The former is a mere matter of greater or less quantities sold but the latter is a compound of price changes and changes in the assortment of sales of high and low priced products. Assume:

	Actual Sales	Expected Sales	Ratio, Sales to Budget
FIG. 9	$38,894.00	$50,000.00	77.8

As in other cases, if the ratio of one of the causes responsible for the ratio of sales to budget, 77.8, is known the other can be found. The volume ratio is the one to be derived first, and the basis of fixed standard costs is essential to this calculation except in simple cases when it is feasbile to tabulate the quantities of each product sold. The procedure provides for the derivation of standard cost of goods sold and of the corresponding actual cost:

	Actual Cost of Goods Sold	Standard Cost of Goods Sold	Cost Ratio
FIG. 10	$30,394.00	$28,000.00	108.6

To ascertain the volume change which has taken place, first determine the standard equivalent of actual sales by applying to the standard cost of the goods sold the expected profit margin which was set up in the sales budget. If it be assumed in this case that this was 20% on sales the standard equivalent of actual sales is $35,000 $\frac{(\$28,000)}{(.80)}$ and the volume ratio therefore is 70, as follows:

	Expected Sales per Budget	Standard Equivalent of Actual Sales	Volume Ratio
FIG. 11	$50,000.00	$35,000.00	70

As the composite ratio of actual sales to the budget was previously found to be 77.8 (Fig. 9), the price level of actual sales was 111.1 $\frac{(77.8)}{(.70)}$. That is to say, prices were raised above the budget and/or a greater proportion of the higher priced products were sold.

The ratio of the rate of profits realized to the rate expected, or the margin ratio, resulting from the combination of the three variables of quantity, price and cost, may be a useful gauge of the desirability of their proportions. For example:

	Actual Gross Profits	Expected Gross Profits	Ratio, Gross Profits to Budget
FIG. 12	$8,500.00	$10,000.00	85

The volume level being 70, it follows that the gross profits realized stand at 121.4% $\frac{(85)}{(70)}$ of expectations. To sum up, the situation is that 70% of the expected quantities were sold at 121.4% of the expected margin between costs and selling prices, which consequently produced a gross profit of 85% of what was expected. The margin ratio of 121.4 is better than contemplated, because (1) the price ratio of 111.1 is 11.1% above the price level anticipated in the budget, and this affects the gross profit five-fold (inasmuch as 100% of the increase in price is profit rather than 20%), and (2) the cost ratio of 108.6 is 8.6% above the budget, and this affects the gross profit four-fold (inasmuch as the increased cost reduces profit by 80% rather than by 20%). The five-fold gain (55.6) arising from the price level, less the four-fold decline (34.2) arising from the cost level, gives the net gain of 21.4%.

The margin level is better than forecast, but not enough to absorb also the loss arising from the decline in volume. It would need to be 142.8 $\frac{(1.00)}{(.70)}$ to attain the expected amount of profit at this volume. If costs can be brought down to a cost ratio of 105 instead of 108.6, a gain of 3.6 points taken four-fold is made toward the desired end, or 14.4, leaving 7 points to be gained by increasing prices or pushing products having wider margins. The margin level therefore must be raised one-fifth times 7 points, or 1.4 points, to become 112.5 instead of the former 111.1. In these proportions the results will be:

Actual Sales	$39,400.00	.70 volume level × 112.5 margin level 78.75 × $50,000 budgetted
Actual Costs	29,400.00	.70 volume level × 105 cost level 73.5 × $40,000 budgetted
Gross Profit	$10,000.00	

This illustration is given at length to show how the method can be applied in a constructive manner. In the circumstances given a raise of about 1% in margin level and a reduction of about 3% in costs will accomplish the desired ends.

Net Profit Variances

The final step in the procedure pertains to the analysis of general expenses. When the budgets of sales and net profits are prepared, the general expenses are scheduled as to those which were more or less fixed and those which fluctuated with volume. By this means a curve is obtained whereby the standard expenses at any current volume may be approximated. The data then are:

	Budgetted General Expenses	Actual General Expenses	General Expense Ratio
FIG. 14	$4,000.00	$3,740.00	93.5

	Standard Equivalent of Actual General Expenses	Ratio to Budget
FIG. 15	$3,400.00	85

General expenses stood at a ratio of 93.5 to the budget at a time when the standard equivalent for these expenses stood at a ratio of 85 to the budget. Therefore, the general expense ratio is $110\frac{(93.5)}{(.85)}$ which means that the effectiveness of control is 91.

The variation in net profits between those expected and those realized is then apparent. It is composed of the variations affecting gross profits modified by the variations in general expenses. A typical analysis is given in hypothetical figures in Appendix B.

IV. CONCLUSION

The foregoing description embraces the essential features of standard cost installation and procedure. There are many incidental problems which could not be discussed within the compass of this paper.

Endeavor has been made to deal with the broader features which are met if the accounting system is to be adequate. It has been shown that (1) executive control is promoted by providing for prompt furnishing of data on variations, (2) administrative control is promoted by providing for the assembly of data to bring out the major trends, (3) reliable and quick cost finding is made possible by the application of cost ratios to standard costs and all figures are maintained in proof with the general accounts.

When it is understood that the standard cost procedure entails no more work than the less useful job cost or unit cost methods, and that it really is simple to grasp without extraordinary mental exercise once the theory is mastered, the great possibilities that lie in it will be evident.

APPENDIX A

Table of Assumed Data Illustrating Standard Cost Procedure

		EXPECTED RESULTS			ACTUAL RESULTS			OPERATING RATIOS	
		Amount		% to Net Sales	Amount		% to Net Sales	Ratio to Budget	Ratio to Standard
1.	Net Sales		$50,000	100%		$38,894	100.0%	77.8	111.1
2.	Cost of Goods Sold*		40,000	80		30,394	78.1	76.0	108.6
3.	Labor	$12,000			$10,584			88.2	140.
4.	Burden	18,000			11,970			66.5	89.1
5.	Material	10,000			7,840			78.4	112.
6.	Gross Profit		$10,000	20		$ 8,500	21.9	85.	121.4
7.	General Expenses		4,000	8		3,740	9.7	93.5	110.
8.	Net Profit		$6,000	12%		$4,760	12.2%		
9.	Machine Hour Capacity		10,000 hours			7,700 hours		77.	103.1
10.	Man Hour Capacity		15,000 hours			12,600 hours		84.	133.3
	Standard Cost of Production*:								
11.	Labor	$12,000			$ 7,560			63.	
12.	Burden	18,000			13,440			74.7	
13.	Material	10,000			7,000			70.	
	Total		$40,000			$28,000		70.	
14.	Standard General Expenses		4,000			3,400		85.	
15.	Man Effectiveness								75.
16.	Wage Level								105.
17.	Machine Effectiveness								97.
18.	Burden Level								86.4
19.	Material Price Level (standard cost of materials used)		$8,000					80.	98.
20.	Material Usage								114.4

*Assuming that all that was produced was sold.

APPENDIX B

Mathematical Interpretation of Data Shown in Appendix "A"

Expected Net Profits	$6,000
Actual Net Profits	4,760
Net Decline	$1,240

Explanation

	Gain	Decline
Volume (70). Less products were sold than expected. This is known because the standard cost of the goods sold, $28,000, at a normal gross profit of 20% would have come to $35,000, against an expected total in the budget of $50,000. The decline of $15,000 results in a loss of the 20% profit margin..		$3,000
Margin (111.1). Higher prices were received for the goods which were sold, and also a higher proportion of the more profitable products were sold. This is shown by the fact that sales were $38,894, which according to the preceding paragraph were expected to come to only $35,000	$3,894	
Costs (108.6). Manufacturing costs were greater than standard, for the reasons given below, to the extent of		2,394
	$3,894	$5,394
		3,894
Gross Profits (85). As a consequence, the margin between sales and cost of goods sold amounted to only 85% of that expected, a decline of		$1,500
Labor Effectiveness (75). Man hours employed in production were one-third greater than standard. Therefore the standard labor cost of production, $7,560, represents one-third less in output than it should have been		$2,520
Wage Level (105). The average rates of pay to direct workers was 5% higher than standard, hence the payroll of $10,584 is 105% of what it should have been		504
Machine Effectiveness (97). Machine hours employed in production were 3.1% greater than standard, hence the standard burden cost of production $13,440 represents 3.1% less in output than it should have been		420
Idle Capacity (23.0) Burden Level (86.4) The actual burden was $11,970, against a budget for full operation of $18,000. The saving of $6,030 was offset, however, by reduced operations, to the extent of 23% of capacity, so that $4,140 that would have been absorbed thereby was unabsorbed. The net saving is	$1,890	

Material Price (98). The purchase prices of material used were 2% under standard on the average.....	160	
Material Usage (114.4). The quantities of material consumed were above those required for the good product turned out.....		1,000
	$2,050	$4,444
		2,050
Total Cost Variance (included above).....		$2,394
General Expenses (110). The normal decline in expenses with the decline in sales volume should have been from $4,000 to $3,400, a reduction of $600, but the actual expenditures exceeded $3,400 by $340, so that the net reduction is only.....	260	
Gross profit variance, brought down from above.....		$1,500
Total Variances.....	$ 260	$1,500
		260
Net Decline in Net Profits.....		$1,240

The differences are taken on the basis that standards represent expectations, to avoid confusion. But any multiples of the standards to represent the expectations may be set up as the basis for the analysis.

TABLE I—DATA REQUIRED		TABLE II RESULTING RATIOS A—to budget	B—to standard
Capacity			
1. Machine Hours	1,000		
2. Man Hours	1,500		
Budget			
3. Wages, Direct Labor	$1,200.00		
4. Mfg. Expense (Overhead).....	1,800.00		
5. Standard Cost.....	$3,000.00		
Actual Costs			
6. Wages, Direct Labor.....	$1,058.40	88.2	140
7. Mfg. Expense (Overhead).....	1,197.00	66.5	89.1
8. Actual Cost.....	$2,255.40	75.2	107.4
Operations			
Production priced at Standard Costs:			
9. Wages, Direct Labor.....	$ 756.00	63	
10. Mfg. Expense (Overhead).....	1,344.00	74.7	
11. Total Production.....	$2,100.00	70	
12. Actual over Standard Cost, Net	($ 155.40)		
13. Actual machine hours.....	770	77	103.1
14. Machine effectiveness.....			97
15. Actual man hours.....	1,260	84	133.3
16. Man effectiveness.....			75
17. Wage Scale level.....			105

TABLE III—RESULTING INTERPRETATION OF VARIANCES

Cause of Variance	Direct Wages	Mfg. Expense	Total
18. Machine effectiveness decreased..		($ 42.00)	
19. Man effectiveness decreased.....	($252.00)		(Losses)
20. Wage scale increased.....	(50.40)		
21. Expense level decreased.....		603.00	
22. Capacity unused.....		(414.00)	
23. Net variance Actual vs. Standard	($302.40)	$147.00	($155.40)

TABLE IV—MATERIAL VARIANCES

24. Material required, at standard cost..	$700.00		
25. Material used, at standard cost.....	805.00		
26. Material usage ratio and variance..		115	($105.00)
27. Material used at actual cost.....	764.75		
28. Price ratio and purchasing variance		95	40.25
29. Material cost ratio and variance.....		109.3	($ 64.75)

THE TREND OF PRODUCTION COSTS

DECLINES in commodity prices continued in November, averaging close to 2 per cent. for all commodities. The Dominion Bureau of Statistics index number, based on 1926 prices and covering 502 commodities, declined from 81.4 at the end of October to 79.8 at the end of November. The main groups compare as follows:

	Nov. 1929	Oct. 1930	Nov. 1930
Foods, beverages and tobacco.....	100.3	87.9	84.9
Other consumers' goods	90.3	85.4	84.9
Consumers' goods, all	94.3	86.4	84.9
Building and construction materials....	98.2	85.6	85.7
Manufacturers' materials	94.5	70.1	68.3
Producers' materials, all	95.2	72.9	71.4
Producers' equipment	94.5	91.3	90.9
Producers' goods, all	95.1	74.7	73.4
Commodities, all	95.7	81.4	79.8

The most important declines were in the following: Foreign fresh fruits, dried fruits, grains, flour and milled products, bakery products, vegetables, hides and skins, eggs, raw wool, scrap iron, asbestos. The most important advance was in brass, copper and products.

In the field of labor there were only six strikes and lockouts in November. Two of these had been carried over from October, while four commenced in November. Two were terminated during the month, one in favor of workers and the other in favor of employers. The four remaining at the close of the month were as follows: Hosiery factory workers, Guelph and Mount Dennis, Ont.; ornamental iron workers, Vancouver; fishermen, North Sydney and district, N.S.; sash and door factory workers, Vancouver.

Credit conditions are unchanged.

COST AND MANAGEMENT

What the Accountant Expects

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(From The American Machinist)

BUSINESS is a complex organization of many activities, from the securing of an order and its progress through the factory, to its final shipment to the customer. It is management's function to correlate and control these various activities. To this end management must have thorough and complete information which it is the function of the accountant to supply. The thoroughness and completeness of this information depends largely upon the attitude existing between management and its accountants.

The process of securing accounting information is necessarily intricate. Few business enterprises are so simple that adequate control may be obtained without the use of a relatively complicated system. The accountant faces a proposition that is not simple but highly technical. His road is often strewn with the remains of bad business policies, poor judgment, and injudicious decisions. His first job is to clear away the prejudices and old inefficiencies, and to steer straight for effective control.

It may not be amiss to outline briefly some of the functions necessary to the installation and operation of accounting work in a modern business organization. First a procedure must be conceived and set down in definite form. The management must give its approval and support; the co-operation of all executives must be obtained. Forms and mechanical methods must be designed and provided. Surveys must be made of the personnel of the organization to fit each clerk into the plan in his proper place, and to hire new ones if necessary. The entire staff must be trained in the proper handling of the work. Final reports must be devised and methods worked out whereby the results may be sold to the executives or the department heads who are to use and benefit by such reports. The mere compilation of many figures, drawing them together from many sources and condensing them into a terse statement of fact, is a complicated piece of work in itself. However, every piece of accounting data must pass through all of these stages of development before the final statement is delivered.

The accountant, if he is to carry out the function of his office, must then expect from the management several things. First in the order of expectancy is the whole-hearted backing of the manager for the accounting plan to be followed. There must be no equivocation or reservation. Management should provide working conditions that are productive of perfect work. Accounting work is very exacting, and to be efficient, the accountant must not be compelled to work in a noisy or congested office. Noise and interruption have been the cause of more errors in accounting work than any other factors.

The manager should so organize the business that definite lines of function as well as of authority may be drawn and a duplication of work eliminated. The accountant is compelled to work with every department and unless the differentiating lines be clearly distinguished, he is handicapped before he starts. It would be useless for the accountant to try to compile figures pertaining to operations, costs,

profits, and losses of all sorts without a definite plan of organization before him. Accounting work follows the lines of organization. To make for a better understanding and to facilitate the handling of the business of each department, the efficient and sincere manager should see that his organization is properly set up and definite authority delegated to the several department heads. It is only then that the accountant is in a position to collect economically the accounting facts pertaining to each phase of the business.

The manager should acquaint the accountant with all of the internal and external conditions affecting the business as well as the conditions affecting the particular industry concerned. He should explain the many problems which affect production, sales, and finances. All the difficulties and perplexities encountered must be revealed, so that the accountant may place the proper weight upon these conditions when he interprets accounting figures. Many accounting reports are of no practical value because they do not tell the complete story, all because the manager has failed to explain certain conditions to the accountant. The accountant will endeavour to give management the best information he can, but he is working under limitations unless he is in possession of all information that may affect the meaning of his reports. Management can very easily make costly mistakes by overlooking these conditions. Usually the manager is not an accountant and cannot himself properly evaluate the significance of these conditions to the accounting figures. It is part of the accountant's job to handle all such matters in an intelligent manner. The accountant is trained to treat all the data he handles with the utmost confidence, and management should feel assured that such information will be protected at all times.

The manager should be familiar with the accounting information so that he may make the utmost use of it. He should make every effort to familiarize himself with the various methods of presentation so that he may readily understand which accounting facts are most valuable to him. Improper utilization of accounting facts may cause an endless amount of trouble. Since accounting reports are usually drawn up in condensed form, the manager should have a complete knowledge of the component facts represented. Detailed reports should be unnecessary unless to settle some particular point at issue or to determine variations. The manager should not hesitate to seek the counsel of the accountant in any matter pertaining to the interpretation and use of his work.

The manager should be constantly critical of the accountant in a constructive manner. Many responsibilities rest upon the shoulders of the accountant, and he must be alert to changes and improvements. The manager should take time to go over things with him periodically to reach a mutual understanding of application to the business shown by accounting figures. A great many managers have been accused, often justly, of being too busy to bother with the accountant. So long as the manager keeps up with things himself, he believes that is all that is necessary. If he would but stop to realize that the accountant is in a position to place clearer interpretations upon various subjects, the manager would have better and possibly sounder ideas of the facts upon which he is called to base his action. The financial effect on the business of making certain decisions, making changes in products,

organizations, or personnel, all should take on a new significance in the light of the accounting interpretation.

The ineffectiveness of many accountants and accounting departments may be attributed to a lack of morale in the organization rather than to weakness in the accountant or the department itself. Morale starts at the top of an organization and goes to the bottom. Possibly the manager has failed to grip his subordinates with his personnality or to insist upon firm discipline without bluster and obstrusive aggressiveness. With proper leadership, an alert organization will result, and lack of morale will not cause inefficiency in the accounting or other departments.

The manager should at all times endeavour to bring his entire staff into full co-operation with the accountant and with the ideas and aims of accountancy. In doing this, he should specifically emphasize that the figures are not intended as a criticism but as a help or a guide to show the management, foremen, and workers the progress of their work. It is true that many reports will show up inefficiencies and faults, but if the manager has properly handled the members of his staff all along the line, the defensive attitude usually assumed by such people will be gradually broken down. The fullest benefit may then be obtained from the use of the accounting reports.

Nothing is more destructive and discouraging to accounting initiative than an apparent inertia on the part of the manager in taking action upon facts brought out in accounting reports. There is hardly a report that does not contain information inductive of executive action. When the manager sits by and fails to take advantage of these opportunities to make savings or eliminate losses, the result is bound to be discouraging to the accountant. If the manager but show an appreciative attitude, there is practically no limit to the initiative of the progressive accountant. The beneficial results will bespeak themselves.

A great many executives are skeptical about making changes in accounting systems and often refuse to permit their accountants to take steps that would tend to simplify the work, increase its effectiveness, and result in reports that would be more useful to the manager. All too often suggestions from the accountant are not given careful consideration, simply because management is afraid they will "add to the red tape." It should be remembered that the man who is doing the accounting work is in the best position to find places for improvement. He is just as ambitious to turn out real economical production as any other man in the organization and has no desire to increase any of the so-called red tape in the office organization. If the manager encourages such suggestions and sits in with the accountant to go over the details, the result is sure to be worth while. There is entirely too great a tendency to discourage new ideas simply because they involve changes. Progress without change is impossible.

Shop executives are usually the chief offenders in objecting to changes. It is manifestly simpler to continue the use of systems with which everyone is familiar than to memorize new forms and procedure. However, the older procedure is often not comprehensive nor productive of results that modern conditions require. Managers should encourage the idea of progress in accounting work and in the use of accounting information as they encourage progress in the development of their product. After all, accountancy is a contributing factor to the success of any business, and, as the business climbs to greater accomplishments, the accountant's work must keep pace.

STOCK CONTROL AT CANADIAN MARCONI

By DUNCAN MACINNES
(From Canadian Office.)

WITH the possible exception of the manufacture of automobiles, no industry has introduced greater production problems than the radio industry. Like the automobile industry its growth has been so rapid, that it has meant the development of an entirely new industry in which high production must be combined with quality workmanship. Every part, as well as the assembled radio receiving set, must pass through rigid tests at every stage of manufacture and assembly.

The necessity of increasingly high production has brought with it serious stock keeping problems, as the depletion of any part or raw material would seriously effect the production schedule. On the other hand, the models and types of radios have changed so rapidly in the past two or three years that it would be suicidal for the radio receiver manufacturer to carry a very heavy stock of any part or material as it might prove to be useless under changed conditions. Thus, along with the other problems of the manufacture of radios, has been introduced the problem of very close and accurate control of stock.

Stock control is becoming, of course, an important consideration in most large industries, and future articles in "Canadian Office" will show how some companies have saved thousands of dollars through paying more attention to this feature. At present we are concerned with the control of stock in the new plant of the Canadian Marconi Co., at Mount Royal, Quebec.

The Canadian Marconi Company plant has a production of about thirty receiving sets an hour in addition to the tremendous amount of radio sending apparatus, coastal station equipment and ship sending apparatus that they manufacture.

As the radio receiving apparatus is assembled in a straight line conveyor system, similar to that used in the automobile industry with a series of workmen, each of whom has one operation to perform, the shortage of materials of any kind would hold up the entire assembly line, and a great many men would be out of work.

Stock is stored in several stock rooms in various parts of the large building. For instance there is a stock room for lamps, which is kept locked, and there is another storeroom for other purchased lines, consisting of long rows of shelves, equipped small drawers for the smaller parts and deep shelves for larger parts. Each shelf and shelf section is numbered.

Control of stock is provided through a large Kardex system located in the factory office. In this system there is a card for every class of equipment kept in the stockroom, and the card indicates the location of the part on the shelf. On these cards is shown the receipt and quantity of parts in stock, and as it is drawn by the assembly of manufacturing departments the vouchers are delivered to the stock keeper who deducts the deliveries from the stock on hand.

A maximum and minimum average stock is determined for each line carried, so that when the quantity of stock on hand approaches the minimum the stock keeper advises the purchasing department to order more. Similarly, if the demand for a certain stock slackens off, the factory can be advised to find some other use for the part.

By the use of the Kardex system the Canadian Marconi Company have eliminated guesswork from their manufacturing operations and have assured that their daily schedule of radio production shall not be held up through the lack of stock. This company uses this system in other departments also.

NEWSPRINT COMPANIES SEEK TO LOWER COSTS

(From the Financial Post)

ONE of the most encouraging features of a not altogether satisfactory situation in the newsprint industry is the manner in which the different newsprint companies are striving to lower operating costs.

It can be said with little fear of contradiction that in the past the newsprint industry has been run along extravagant lines. Operating costs have been excessively high. It little mattered during the years when plants were operated at capacity and newsprint fetched higher prices than today. There was a profit to be made and economy was a secondary consideration.

With operations at 70 per cent. of capacity and newsprint selling at $55.20 a ton, adjustments have had to be made in order that the manufacturers might finish the year without going into the red. This change has come about not before it was needed and the industry stands to benefit immeasurably by the present house-cleaning.

Examples of Varying Costs

At the last annual convention of the Canadian Pulp and Paper Association, R. S. Kellogg, secretary of the Newsprint Service Bureau, gave many facts regarding the inefficient manner of present-day newsprint production. These facts are not new; they have been known for years, but with conditions prosperous the axe of economy lay buried.

Some of the statements made by Mr. Kellogg at the meeting showed the necessity of putting the industry on a more workmanlike basis. Here are some of the inconsistencies noted in the manufacture of pulp and paper:

In their barking operations two mills handle approximately the same quantity of wood. One uses 2.9 men per 8-hour shift for each 100 cords of wood barked, and the other uses 9.6 men for the same results, or 3.3 the number of men in the other mill.

Two mills slash approximately the same quantity of wood in 8 hours. One uses 3.2 men and the other 8.1 men for 8 hours for each 100 cords slashed; that is, one mill uses 2½ times the number of men there are in another mill to do the same amount of work. All handle the wood in the water to the jack ladder.

One prominent mill's figures on pulp yields are more than 20 years old.

No one knows what is groundwood pulp. Consequently, there is a wide diversity of grinders, pulp yields and qualities, all of which could be greatly helped by proper research.

Pulp stone costs range from 6 cents to 60 cents per ton of pulp. Only one newsprint mill in North America has built adequate storage space with controlled temperature for its stones, so that they will be taken out in rotation according to age.

An improvement in groundwood which would make it possible to use 10 per cent. more in a sheet of newsprint might save $2 per ton of

paper. One mill uses 7,000 pounds of steam in the dryers per ton of paper, and another 10,000 pounds per ton. Steam costs an average of 38 cents per 1,000 lbs. Saving 1,000 lbs. per ton of paper means a saving of from $38 up per day on one modern machine.

If felts, jackets and dryers are used 10 per cent. longer there is a saving of from $5 to $10 a day on one machine.

Many mills greatly improve their operating efficiency by lowering the broke losses, which range from 2 per cent. to 9 per cent.

An increase of 2, 3 or 4 per cent. in output through better stock preparation and control and more smoothly running equipment will amount to large totals in the year's balance sheet.

The above are only a few of the many examples given by Mr. Kellogg of ways in which improvements may be effected and paper-making put on a more scientific and less costly basis.

The present less profitable times for newsprint have forced demands for economies and efficiencies that might otherwise have been long delayed.

Economy is the watchword among newsprint manufacturers. Last year the majority of producers came through with satisfactory financial statements, though it was necessary for many to make substantial cuts in their operating costs in order to do so.

While earnings were not sufficient to leave any large surplus for the common stock shareholders, the fact that the operators were able to cover their fixed charges, depreciation and depletion was considered as satisfactory in view of conditions prevailing.

The economies put into effect, however, did not end there. Had conditions taken a turn for the better this year, it might have been possible to carry on without making any further changes. Such has not been the case and a number of manufacturers have had to make further cuts in their expenses in order to keep out of the red ink.

Needs Force Economies

With no increase in the price of newsprint this year and no definite assurance of an advance in 1931, it is necessary that the manufacturer increase his output in order to bring revenue up to a point where it is sufficient to take care of his prior capital charges. If this cannot be done, then the surplus income must be effected through operating economies.

To make a reasonable profit on the capital investment at the present price of newsprint, it is necessary to keep the mills operating at over 80 per cent. of capacity. This ratio would not have to be so high if a better price for newsprint prevailed.

There is no reason to anticipate any marked advance in the demand for newsprint or any material change in the price of the commodity. Consequently, if the manufacturers are going to keep their heads above water, it will be necessary to make economies which were unthought of a few years ago.

Last year the operators adjusted themselves to the necessity of working on a basis of about 70 per cent. of rated capacity. It was obligatory to slash costs in the various departments in order to come through the year on the right side of the ledger.

COST LITERATURE

RECEIVED IN DECEMBER

METHOD of Handling Depreciation by Electric Street Railway Companies. C. C. Hetzler. Certified Public Accountant, December, 1930.

Problems of Personnel. Part VIII. Accountants' Journal, December, 1930.

Keeping Costs. The Accountant, December 13, 1930.

Standard Costs in the Furniture Trade. E. G. M. Phillips, C.A., A.I.C.A. Accountants' Journal, November 20, 1930.

One Method of Handling Service Department Burden Accounts. W. A. Mackie. American Accountant, December, 1930.

Cost Control System for a Thread Manufacturing Plant. G. L. Dickinson, National Association of Cost Accountants, Sec. 2, December 1, 1930.

Value of a Depression. Col. B. A. Franklin. National Association of Cost Accountants, Sec. 2, Dec. 1, 1930.

Cost Analysis for Wholesale Operations With Special Reference to Wholesale Druggists. National Association of Cost Accountants, December 1, 1930.

Planning and Installing Systems. National Association of Cost Accountants, December 15, 1930.

Standard Costs in Budgeting. National Association of Cost Accountants, Section 2, December 15, 1930.

Why we went back to Day-Work. W. H. Gesell. Society of Industrial Engineers, November, 1930.

Building the Man-Power of an Organization. L. Galloway. Society of Industrial Engineers, November, 1930.

Age Factor in Industry. Society of Industrial Engineers, November, 1930.

Development of Cost Accounting Towards Budgetary Control. Cost Accountant, November, 1930.

Compilation and Application of Budgets in Industry. A. Eastwood, A.C.W.A., Cost Accountant, November, 1930.

SOCIETY'S PRESIDENT SUFFERS ACCIDENT

S. E. LeBrocq, president of The Canadian Society of Cost Accountants & Industrial Engineers, and comptroller of the Steel Company of Canada, Ltd., suffered injuries in an automobile accident near Galt, Ont., on December 21. Members will be glad to learn that he will soon be recovered.

CHAPTER NOTES

MONTREAL

H. W. Blunt, C.A., Secretary

Taking an object lesson in the value of Canadian manufactured goods and the efficiency of Canadian industries, some sixty members of Montreal Chapter motored out to the city of Granby one Thursday afternoon early in November. There they inspected the plants of the Empire Tobacco Company and the Granby Elastic Web, and in the evening the entire party attended a joint meeting in the Granby Hotel of members of the Granby Board of Trade and the Granby branch of the Canadian Manufacturers' Association. This meeting was preceded by a sumptuous banquet which was tendered the visitors by the executives of Granby's three leading industries: the Miner Rubber Company, the Granby Elastic Web and the Empire Tobacco Company.

Upon their arrival in this thriving industrial center of the Eastern Townships, members of the party were directed to the plant of the Empire Tobacco Company where they were met and welcomed by W. O. Lewis, the general manager. Here competent officials took charge of the delegation and led the tour of inspection through the factory.

Every detail of the process of manufacture was examined and explained, from the raw leaf coming into the plant to the manufactured cigar or package of tobacco that is sent out to the dealer.

As the inspection progressed, a growing reluctance on the part of certain members to follow their guides from one department to another became more and more apparent. It later developed that these cost experts had become so engrossed in examining direct labour figures in some departments that they had failed to consider what their delay would do to factory overhead. In their defence may it be said that a more satisfactory excuse would have been much less attractive.

When the party reached the department where tobacco, after being submitted to tremendous pressure, was converted into the many favorite brands of "plug," a rubber accountant remarked on the similarity between this process and that of making rubber heels. Both he and his guide agreed, however, that neither would prove an effective substitute for the other. Another member seemed more than relieved when he was assured that the different brands of tobacco manufactured did not issue from a common source and then arrive by a different route to the packing room.

Upon the conclusion of the tour of inspection the visiting Montreal members were unanimous in expressing their praise and admiration of the sanitary surroundings and excellent efficiency which were so very much in evidence throughout the entire plant. It was generally conceded that the Empire Tobacco Company was far superior in both these particulars to the average industrial organization.

From this plant the visitors proceeded to the Granby Elastic Web, where they were met and greeted by the president, P. E. Boivin, and his son, P. H. Boivin, the assistant general manager. An interesting inspection of the different processes in the manufacture of elastic webbing followed, when members were given an opportunity to examine the various types of looms which turn out every conceivable pattern and size of elastic fabric imaginable. After a thorough examination of the various manufactured products of this flourishing industry, the delegation agreed that here indeed was to be found the source of support for a nation. Mr. P. E. Boivin, who is also Mayor of the city, established an enviable reputation for unexcelled hospitality at a most enjoyable reception held in the President's office at the conclusion of the tour of inspection.

As the hour for dinner had now arrived the party with one accord wended its way to the Granby Hotel where it was warmly welcomed by the following well-known industrialists and financiers of the city: W. O. Lewis, J. B. Travers, P. H. Boivin, A. C. Smith, N. Austin, O. V. Giddings, K. A. Cowley, J. G. Fuller, W. R. Legge, C. P. MacDonald and C. Stohn. This Committee was so happily endowed with the gift of making guests thoroughly at home, that before many minutes had elapsed there was no distinguishing guests from life-long residents of the city. After due deliberation the three organizations represented decided on a merger of liquid assets which proved an unqualified success.

At length the call to dinner sounded and one hundred and seventeen hungry members of the Granby Board of Trade, the Granby Branch of the C.M.A. and Montreal Chapter hastened to the source of satisfaction for the inner man—the dining room. Here the chef had prepared a splendid banquet which did full justice to this notable occasion of the meeting of three distinguished organizations. As the dinner progressed, Col. Bruce Payne's made-in-Granby cigars and Imperial Tobacco cigarettes found increasing favour and were much enjoyed by all present. Montreal Chapter's live-wire vice-chairman, J. P. Masterson, was unavoidably absent on this occasion, although the good spirits of his forty-eight representatives did much to ensure the success of the evening.

After calling the meeting to order the chairman, C. P. MacDonald, expressed his pleasure in welcoming on behalf of the Granby Board of Trade the members of Montreal Chapter to Granby. He then called on Mayor Boivin, who in his usual eloquent manner, extended cordial greetings to the visitors on behalf of the city of Granby.

The next speaker was Montreal Chapter's popular chairman, G. T. Bowden. He thanked wholeheartedly the industrialists and the executives of the two organizations in Granby who had made possible this meeting in their city. After commenting on the splendid organization of the two plants visited, he briefly outlined the aims and accomplishments of Montreal Chapter.

He was folowed by H. W. Blunt, secretary of Montreal Chapter, who stressed the necessity of a knowledge of cost accounting for every individual member of the community. Indeed he went as far as to declare that all worthwhile achievement was the result of faithfully practising the habit of "counting the cost."

The next speaker heard was Allan G. Mitchell, chairman of the Montreal Branch of the C.M.A., who brought a message of goodwill to the meeting from Montreal. He dealt with "Made in Canada Week" and the great role the movement was playing in furthering the economic and commercial deevlopment of the Dominion at large.

Following these remarks G. T. Bowden introduced the first of the three speakers of the evening who were to discuss the subject, "The Advantages of Cost Accounting and Industrial Engineering to the Manufacturer." This was Paul E. Dufresne of Wilson and Fessenden, who delivered an excellent paper on the many advantages accruing to the manufacturer from the services of the industrial engineer. He was followed by L. N. Buzzell, C.A., of Clarkson, McDonald, Currie and Company, who presented a thorough exposition on the necessity of cost accounting to ensure the success of any business. Both speakers were congratulated by Prof. R. R. Thompson on their very excellent handling of a difficult subject. He urged upon his hearers the necessity of buying Made-in-Canada goods whenever possible if they desired Canada to prosper as it should. Other speakers listened to with interest included: W. H. Miner, W. O. Lewis, C. Stohn, A. C. Smith, J. G. Fuller and L. Belanger.

Seated at the head table were the following distinguished citizens of Granby: Mayor P. E. Boivin, president, Granby Elastic Web; C. P. MacDonald, president, Granby Board of Trade; C. Stohn, president, Granby Branch C.M.A.; W. O. Lewis, general manager of the Empire Tobacco Company; W. H. Miner, president, Miner Rubber Company; A. C. Smith, manager of Granby Branch, Canadian Bank of Commerce; Col. J. Bruce Payne. Among the visitors honoured in a similar manner were: R. R. Macaulay, secretary-treasurer, Miner Rubber Company; L. N. Buzzell, Paul E. Dufresne, Allan G. Mitchell, chairman, Montreal Branch C.M.A.; G. T. Bowden, chairman, Montreal Chapter; H. W. Blunt, secretary, and Prof. R. R. Thompson, L. Belanger, J. Carpentier, J. C. Leroux, J. P. Rolland, directors.

The visit to Granby was intensely interesting and its splendid success far exceeded the expectations of even the most optimistic. Members who had the privilege of attending this meeting will not soon forget the wonderful hospitality accorded them by the citizens of of Granby. Indeed Mayor Boivin voiced the thoughts of all present when he remarked: "Here is one of the best little cities in the Dominion of Canada!"

VANCOUVER

By J. J. Plommer, C.A.

The monthly meeting of the Vancouver Chapter was held on December 9th. In the absence of the Chairman in the east, the chair was taken by the Vice-Chairman, Mr. J. C. Dull. The feature of the evening was an address by Mr. F. A. Wilson of the Hudson's Bay Company on "Department Store Merchandise Turnover and Inventory Control," which was well received by a good attendance of the members. Mr. Wilson illustrated his lecture with specially prepared charts, and made it very interesting. A lively discussion followed, in which a number of members took part. This freedom of discussion is becoming a very fine feature of the meetings of the Chapter.

TORONTO

E. W. Carpenter, Secretary

Mr. S. E. LeBrocq, comptroller of the Steel Company of Canada and President of our Society, presented on November 26th, 1930, to an interesting gathering of the Toronto Chapter members and guests his paper, "Net Profits—The Ultimate Objective." The topic was chosen to impress the importance of operating a business with this Net Profit Objective, I think rather as a means to an end, than an absolute Omega of all businesses. There has been and still is, a great deal of general discussion on this point in the business world of late. While the aim of all businesses may be to obtain its objective of Net Profit, there are many other humane interests to be served as well as the interests of the shareholders, expressed to them through dividends.

Mr. LeBrocq early in his paper stressed the importance of the very careful analysis necessary in interpreting financial statements and explained several examples of misstatements of facts made by financial authorities in this regard. Also the speaker pointed out the many different interpretations which may be placed on what might be termed financial statement terminology. Mr. LeBrocq's treatment of the depreciation reserve in relation to shareholders invested capital account, was illuminating and promoted discussion which was not entirely in the affirmative.

Discussion was carried on at some length. Once again, as in previous meetings, standard costs made its appearance. In answer to several questions, Mr. LeBrocq stated that while standards of various forms were no doubt in vogue in the operation of the plants of The Steel Company, standard costs procedure had not yet been adopted nor did he think it feasible that it could be. Mr. Putt of the Swansea Works of the Steel Company championed the cost system now in use in their plant. A member brought up a problem on the subject of "where does the responsibility lie with regard to the additional cost of labor due to changing over various productive departments from one unit of production to a new unit, particularly when these changes were numerous." After some discussion from various angles it developed that it seemed, to the majority of thought, to be a proper managerial charge against administration expense and not a departmental charge nor should the earnings of the employees suffer as a result of these change-overs.

Meeting then adjourned after an expression of thanks on behalf of the meeting, for Mr. LeBrocq's address.

On Wednesday, December 10th, at the usual dinner meeting held at the Carls-Rite Hotel, Mr. Starbuck, Canadian representative of the Geo. S. May, Inc., management, sales and cost reduction engineers, presented a paper, the subject being, "Practical Application of Cost Data to Production Management." Mr. Starbuck opened his address with an interesting description of the origin of industry, tracing it to its present immense estate from the humble beginnings in small home workshops, existing in large numbers years ago, producing the actual necessities of life. The capital structure of modern business was well handled and illustrated most clearly by Mr. Starbuck's blackboard sketches. The importance of foremanship in modern industry was

sponsored and vividly championed by the speaker. The foremen or department managers place in taking the material and the labor supplied to him and efficiently welding these factors with his own supervision and the tools, machinery and all aids supplied by management proved to the speaker that the foreman was the only real producer in an organization and in being such should be properly recognized. At the same time, of course, Mr. Starbuck explained the importance of the duties of the executive staff—but from a different angle.

In applying Cost Data to Production Management, the speaker stated this most important truth, that might be well heeded,—cost data must be cost facts. Cost data must be not only—what are they? but, what should they be? Mr. Starbuck paid a tribute to the cost accountants as being originally and even now the basis of industrial engineering.

Mr. Kimmel, supervisor of Geo. S. May, Limited of Canada, entered the meeting and together with Mr. Starbuck handled the questions raised by the discussion. Rewards to foremen in the forms of bonuses and profit sharing, together with the subject of wage incentive plans occupied the majority of the discussion at this meeting which was joined in by the guests as well as members.

Standard costs and wage incentive plans are subjects of tremendous interest at the meetings of the Toronto Chapter this year and are promoting a great deal of discussion.

At a meeting of the Toronto Chapter executive board, R. Presgrave, of the York Knitting Mills, Ltd.; E. E. Sparrow of the Imperial Varnish and Color Company, Limited, and E. W. Carpenter of the De Forest Radio Corporation, Limited, were appointed members of the executive board to fill existing vacancies.

NEW MEMBERS

The following are new members of the Society:

Toronto Chapter

Williams, R. J., Canadian Wm. A. Rogers, Ltd., Toronto.

Montreal Chapter

Anderson, M. F., Dominion Rubber Co., Ltd., Montreal.
*Bhereur, Viau Biscuit Corp., Ltd., Montreal.
Morrison, W. H., Canadian Steel Foundries, Ltd., Montreal.
Simons, O. L., Canadian Industries, Ltd., Montreal.

Vancouver Chapter

Grant, A., Ramsey Bros. & Co., Ltd., Vancouver.
McGlashan, G. S., British Columbia Sugar Refining Co., Ltd., Vancouver.

*Junior membership.

"My husband is so good to his employees."

"Is he?"

"Yes. He came home late from the office last night, all tired out, and I heard him say in his sleep, 'Jim, I'm going to raise you another ten.' and business is so poor just now."

INSURANCE COMPANIES SHOULD HAVE COST SYSTEM

IN his report which follows an investigation into automobile insurance premium rates in Ontario, Justice Hodgins says:—

"I may explain that, at the outset of my inquiry into the reasonableness of the 1929 automobile insurance premium rates in Ontario, I was confronted with the major difficulty that the majority of the insurance companies transacting, in the three or four years immediately prior to April, 1928, upwards of sixty per cent. of the business in the Province, had failed to establish any real system of cost in their offices, and were thus quite unable to produce before me any reliable statistical records, showing the cost of automobile insurance in Ontario.

"The rate-making procedure of the Canadian Automobile Underwriters' Association contemplated the making of rates on the basis of a statistical record of loss cost experience, and its by-laws required its member companies to keep such records according to a uniform statistical plan, but it developed that the majority of the companies were not members of the Association during that period and had kept no useful records of their own experience, and that even companies members of the Association, had failed to keep the required records and contribute their experience to the Association.

"I found that, so far from being able to examine the rates then in force in the light of any useful data, I had to deal with a condition in which more than seventy per cent. of the automobile insurance in the Province was being written at rates fixed by the Canadian Automobile Underwriters' Association, and more than ninety per cent. at rates based directly on the rates of the Association, upon defective experience, and not the result of any plan capable of comparisons between the results of the business of the various companies.

"Many of the insurance company managers seem to fail to appreciate the importance of accurate statistical data as a basis for rate-making, and the necessity of keeping such data accordingly to a uniform statistical plan. It is time that the companies realized that their right to combine to make rates should be conditioned upon an undertaking to keep such statistical records of their loss and expense costs as are necessary to make and judge the reasonableness, or discriminatory character, of the rates they promulgate and charge."

A fish story out of Forbes' Magazine: "A naturalist divided an aquarium with a clear-glass partition. He put a bass in one section and minnows in the other. The bass would strike every time a minnow approached the glass partition. After three days of fruitless lunging, which netted only bruises, he ceased his efforts and subsisted on the food that was dropped in. Then the glass partition was removed. The minnows swam all around the bass, but he did not strike at a single one. He was thoroughly sold on the idea that business was bad. Moral: Take another shot at the glass partition. Maybe it isn't there any more."—From Factory and Industrial Management, November, 1930.